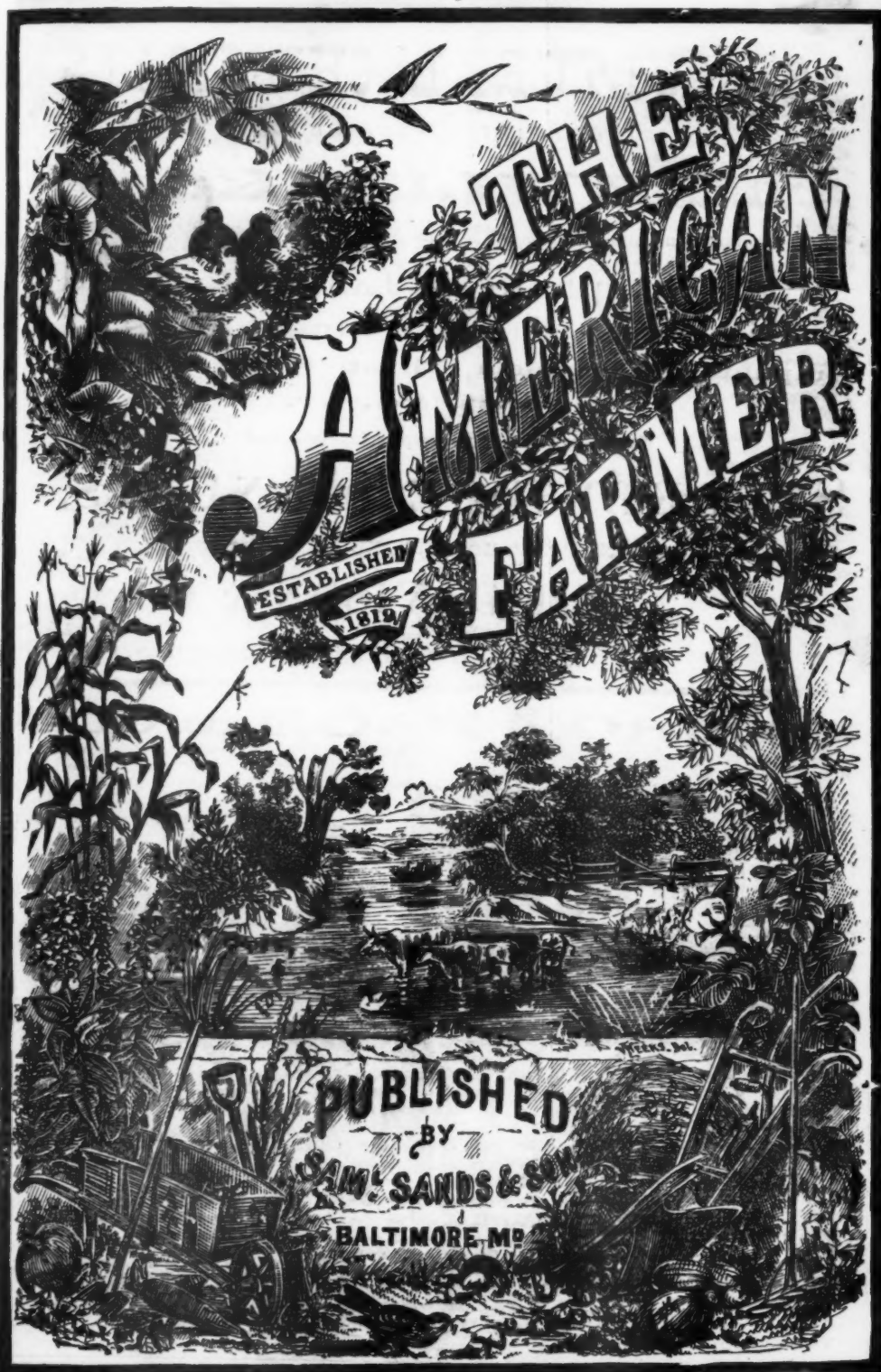


MAY, 1879.



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THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

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MAY, 1879.

[NEW SERIES.

Concentrated Manures a Good Thing and a Blessing.

Messrs. Editors American Farmer:

Ever since the tiller of the soil first commenced his work, there has been constantly going on upon the earth's surface a "wear and tear," by which the best portions of the soil have been swept off into the ocean. This work of devastation has been carried on mainly by the action of water, through drainage and wastings.

The amount of fertilizing material that is thus carried off and lost is enormous. An eminent agricultural writer in England, writing upon this subject, says: "By carefully-conducted experiments, and by the most accurate gaugings, it has been found that the chief London sewers convey *daily* into the Thames about 115,000 tons of mixed drainage, containing on an average one part of solid and twenty-five parts of fluid matters." But if we only compute one part in thirty of this immense mass to be composed of solid substances, then we have the large quantity of more than 3,000 tons of solid manure daily poured into the river from London alone. The amount thus accumulated in one year would be sufficient to fertilize 50,000 acres of poor land. The quantity of food thus lost to the country by this heedless waste of manure is enormous; for only allowing one crop of wheat to be raised on this 50,000 acres, that would be equal to the maintenance of 150,000 persons.

London, too, is only one instance of this waste of the riches of the soil of England. From every other English town, city and hamlet, is hourly passing into the sea a proportionate waste of manure rich in urine, ammonia salts, and the mineral elements of lime, potash, soda, magnesia and phosphoric acid.

Take another instance: the Mississippi river. It is estimated that the enormous amount of 28,000,000,000 of cubic feet of solid matter is carried down annually by the Mississippi river and emptied into the Gulf of Mexico.

Now, taking these two examples as the data, what an incalculable amount of fertilizing matter is annually washed down into the sea from the whole earth's surface!

Now, if there were not some neutralizing agencies in existence to counterbalance the effects of this enormous waste of the elements of vegetation, the most ruinous consequences would follow. Sooner or later the entire earth's surface would become a barren waste, and both vegetable and animal life would cease to exist. I propose to show how an all-wise Providence contrives to neutralize the effect of this waste; how it brings back these washings and drainage to the soil again; and how these *concentrated* manures are made to take a most important part in the great work.

I observe in the first place that all matter (solid, aqueous and gaseous,) has had its existence from the beginning of creation, and can neither be increased or destroyed. Organized bodies—those that grow or are the product of growth—are organized, not made anew. They are made out of the original indestructible elements of creation, put together in the act of growth by chemical action and by the exercise of the vital forces producing growth. These organized bodies (both vegetable and animal) can be decomposed, disorganized or taken to pieces, but they cannot be destroyed. They may be made to disappear as a visible organized body; but the original elements out of which they were formed being liberated or set free, return to their original condition—the mineral elements to mother earth and the organic elements to the atmosphere. In this way these elements are undergoing constant change—a continual transformation from one condition to another, or from one organism to another. Even these sensitive and delicately-formed bodies of ours are formed out of these same elements, put together in the same way, and subject to the same universal laws of disintegration. "Dust to dust." "Dust thou art, and to dust shalt thou return."

These original elements out of which all organized bodies are formed cannot be destroyed; but possessing as they do the power of infinite chemical combination, they are constantly changing their condition and forming new compounds. In the work of creation the Grand Architect created nothing in vain. Everything was cre-

ated for a purpose, and everything thus created is perfectly adapted to its purpose. The crude elements of the soil and atmosphere were created for the support of vegetable and animal life; and they have to fulfill their mission whether they remain on the earth's surface or are transferred to the vast deep. In the former position they go to the support of vegetable and animal life, and in the latter they have the same office to perform for the inhabitants of the great ocean. When this earthy matter is carried down into the sea it undergoes a change or is separated—a portion forming a sediment at the bottom of the sea, whilst a portion becomes incorporated with the water and is held by it in a state of solution. The first contains most of the nitrogenous compounds, whilst the latter is made up of alkaline and mineral matters. Fish and the other inhabitants of the deep feed upon both, and they in their turn, by a variety of agencies, both directly and indirectly are transferred to the earth's surface, where they become food for man and beast and the birds of the air, and are utilized in a variety of ways for manurial purposes.

Water as found in the sea, as well as that found in our wells, springs and streams, is all more or less impure,—being mixed with and holding in solution earthy, alkaline and acid matters. Even rain-water is far from being pure, for in its descent from the clouds it readily absorbs the gases of the atmosphere. The only way to obtain perfectly pure water is by distillation. All water contains more or less fertilizing matter, and sometimes everything necessary to feed plants. Plants have been grown in well-water without ever having their roots to touch the soil. It is for this reason that irrigation is such a powerful promoter of the growth of plants. The water supplied to the soil by irrigation not only furnishes the plant with the water needed for its growth, but it also supplies more or less the fertilizing matter which it holds in solution.

This drainage and these washings from the earth's surface find their way back again to the soil in a variety of ways. Vast quantities come back in the shape of fish, which are utilized for food and other purposes. Some go to feed the birds of the air whose droppings cover whole islands and go to enrich millions of acres of poor lands. Some are consumed by shell-fish, whose shells go to form marl-beds; whilst some go to form immense phosphate deposits found everywhere along the line of the seacoast, and which are found so valuable and necessary in restoring the phosphates to our exhausted soils. Then, again, not a little find their way back in the shape of sea-weed, immense quantities of which are thrown by the action of the waves upon the coast. In some parts of the ocean this sea-weed grows in great quantities, covering extended areas of the sea with a luxuriant growth. Off the coast of South America there is found a species of sea-weed that grows many hundred feet in length, and forming such an immense growth upon the surface of the sea as to seriously obstruct the passage of vessels.

In a word, there is a continual exchange of products going on between land and sea, by which the fertility of the soil is kept up and the

equilibrium maintained. An able agricultural writer upon this subject says: "The ocean is a vast reservoir from which science may find means of recovering supplies especially of these valuable ingredients." The ocean and the atmosphere constitute Nature's great storehouses from which she may draw unlimited supplies of fertilizing material for the renovation of his exhausted fields.

Fish contain more nitrogen and phosphoric acid than any other crude material, and it is fish that constitutes one of the main bases for the manufacture of our concentrated manures. Vast quantities are consumed as food for men. The birds of the air feed upon them and immense amounts are consumed directly in the manufacture of fertilizers. To show that the hand of Providence is in it, I will mention some very interesting and significant facts in connection with the formation and utilization of Peruvian guano. Peruvian guano is the deposit of a sea-fowl that feeds upon fish and is found on certain islands off the coast of Peru. It is the most concentrated and valuable of all the concentrated manures, abounding as it does in two of the most costly and valuable ingredients of plant food—ammonia and phosphoric acid. Two conditions were necessary for the formation and preservation of these valuable deposits, both of which were *providentially* supplied. The first was, that these islands should be barren and uninhabited; for if inhabited the birds would never have gone there to roost, and lay, and rear their young. The other condition was, that it should never rain there;—otherwise the fertilizing elements of these deposits would have been leached out and evaporated. With these two indispensable conditions existing, the droppings of the birds fall upon the naked, barren rocks; the hot sun pours down upon them and takes out the water and other moist matter, leaving the residue in the most concentrated shape possible. This intense concentration is also a necessity to enable it to bear transportation; and being brought about in this providential way, it is able to bear thousands of miles of transportation, passing through numerous hands, paying each a living profit, and finally reaching the farmer and enabling him to enrich his exhausted soils and make remunerative crops.

Stable manure is the best manure in the world, for it is a complete manure, containing all of the elements of vegetation, but it contains so much inert matter that it will not bear transportation five miles.

From these indisputable facts it is evident that these concentrated manures are one of those blessings which a Beneficent Providence has put within the reach of man to meet his necessities. But these blessings, like all others, are liable to be abused, and their value and good effects depend upon a wise and judicious use of them. Nobody doubts or denies the value of gold, yet it may be counterfeited, adulterated or used for improper purposes. The fact that a good thing may be thus abused, affords no just reason for its renunciation. In using concentrated manures good judgment and a sound discretion are indispensable to success, and the farmer should understand something about the value, properties and effect of the chemicals em-

ployed in their manufacture. Too much has been expected from these fertilizers. Some persons seem to think that they possess a sort of magic power over vegetation, and are bound to make the crop in spite of all kinds of adverse conditions. The fact is, they are no specific, and they afford no guarantee for crops in spite of bad seasons, the absence of soil adaptation, and, more than all, of timely and a thorough cultivation of the soil. Their favorable action depends upon all of these conditions. The experienced, practical farmer knows all this, and when he uses them he knows that he has some risk to run.

WM. HOLMAN.

Cumberland Co., Va., April, 1879.

[TO BE CONTINUED.]

Fertilizers from South Carolina Rock.

Messrs. Editors American Farmer :

The "difficulty" between the manufacturers of fertilizers and the "planters of Georgia and other cotton States," referred to in the April No. of the *Farmer*, has suggested several questions bearing on the commercial fertilizer, subjects which have been, as might have been expected, variously replied to. Some valuable light has, here and there, been afforded, and not a little display of valueless because superficial knowledge.

The planters are of the very decided opinion that, in the first place, certain "charters" granted by a legislature always in the market for the highest bidder, and confirmed by a legislature not duly informed, or misinformed, as to the merits of the case, were and are flagrantly iniquitous. Hence, the question has arisen: can these charters be revoked? It is evident that this question will be brought up and acted upon this coming winter.

In the meantime the planters are asking if there is any solid reason why a fertilizer, with South Carolina phosphate rock for its base, cannot be manufactured at a very considerably less price than that which hitherto has obtained. There seems to be no doubt as to the cost to the South Carolina manufacturers of fertilizers of the "rock"—\$7 to \$8 a ton.

The cost in Liverpool of the first quality of "South Carolina rock," as the writer is informed by Messrs. H. & T. Proctor, manufacturers of special manures, Bristol, England, is from 55s. (\$14) to 60s. (\$15) per ton, and the "manufactured article" the same authority quotes at from £5 (\$25) to £6 10s. (\$32) per ton. It is noticed also (see interesting article on "super-phosphates" in March No. of the *Farmer*) that in Maryland "South Carolina rock" sells at same price as in Liverpool—\$14 to \$15 per ton.

Why, it is asked by the planters of South Carolina, does the "manufactured article," with a cost to the manufacturer in England of the raw material 100 per cent. more than that paid by the manufacturers of South Carolina, sell at from \$25 to \$32 per ton, while for the South Carolina manufactured article \$— to \$— is demanded—a figure so manifestly in excess of that which logically would seem (if the cases are legitimately comparable) fair?

Again, these same much-perplexed planters imagine, and they think it is not all imagina-

tion, that a "commercial fertilizer," having for its base South Carolina phosphate rock at \$7 to \$8 per ton, should be supplied them at from \$20 to \$25 or less per ton, said fertilizer being of indisputably "first-grade" quality.

It has occurred to the writer that there are not a few of the correspondents of the *American Farmer* who would be willing, as they are certainly able, to shed a little valuable light on these several questions. Hence this statement of facts and difficulties.

It is simply folly to suppose that questions of this nature, the satisfactory solution of which would be of such manifest interest to the planters, can be settled by indiscriminate abuse of the fertilizer manufacturers on the one hand, or, on the other, by contemptuous sneers at the planters' ignorance.

The writer may shortly have it in his power to communicate to the *Farmer* some interesting matter in relation to this commercial fertilizer question to be supplied him by the same English manufacturers of special manures above, to whom he has addressed some special enquiries. He hopes in the meantime to find in the *Farmer* such reference to this communication, in the way of fact or suggestion, as may, with more or less directness, point the way to a satisfactory settlement of the "difficulty" between the fertilizer manufacturers and "the planters of Georgia and other of the cotton States." H. E.

Greenville Co., S. C.

Tobacco—Barnett Process of Curing.

Messrs. Editors American Farmer :

This crop, now that the federal government have let up in their heavy (I might say iniquitous) grasp upon it, on which these good people, among whom for over a month I have had most pleasant intercourse, are taxed over forty-six millions of dollars a year, deserves all the attention you and other agricultural editors are bestowing upon it. Because of the great competition the farmers of the Atlantic border have to contend with in cereals from the West, as also in beef and pork, they must diversify their agriculture. Any information that will enable them to prepare this crop for market and enhance its value will no doubt be grateful to them. To that end will you bear with me in detailing to you the history of what is known now in a few counties in Virginia as "Barnett's process for curing tobacco." A young man, Jno. W. Barnett, near the Big Spring, Montgomery county, Va., brought up between the plow-handles, by accident, so to speak, about 1870, discovered in a new barn, where he had kindled his fires under his tobacco, that a spring was concealed under the surface, and the ground rendered, if not indeed wet, very damp. He felt uneasy, because the generally accepted belief everywhere among the growers of the weed was in favor of having a perfectly dry floor. In his efforts to dry it he very soon discovered such a change in the color and character of the tobacco immediately over the spring that arrested his attention and induced a series of experiments. He kept his own counsel and succeeded in reducing his process to a science. He communicated it to a number

of his most intelligent friends in his own and the counties of Floyd and Roanoke. They now come forward as one man, voluntarily, with the certificates I send you. A number of them are of the Tunk-r persuasion. All endorse it in the most enthusiastic manner as the great desideratum; that with the most skilled of farmers in the border counties of Virginia and North Carolina, where the finest tobacco in the world is made, and where they know more on the subject than is known anywhere else, yet even there they can't drive out the green and produce a uniform color. This process not only does this, but makes it *tough*, preserves the oil, gum and weight, gives it the velvety, buckskin, silky feel, economizes room in the barn, time and fuel,—all the *desiderata*. What more do you want? Now for a bit of history: My attention (who live more than a hundred miles east of Mr. Barnett, and never met him until last fall at our State fair) was called to his process by accident the August of the Centennial. It impressed me greatly. I never raised tobacco and do not use it. I have for years, long before the war, been satisfied our valley counties ought to raise it to diversify their crops. It is not wise to carry all the eggs in one basket, so to speak. I had seen what Connecticut and Pennsylvania have been doing, and so much farther north, the season that much shorter; why could not the valley counties grow it successfully? I had a friend occupying a position at the Centennial as "chairman of the group of judges on tobacco," twenty-five of the most intelligent men from every tobacco-growing country in the world. They had, as I knew, been engaged for weeks on the subject. I at once wrote to him and described Barnett's process as well as I could. He replied immediately, and at length. He said they had every process for curing tobacco in the world minutely explained to them, but he could safely say, if I had not been misled, and if Barnett's process would cure all tobacco "*tough and uniform*," that it would be worth to the States of Virginia and Kentucky alone each year *five millions* of dollars individually, and the rest of the tobacco countries in the same proportion. That California, through her tobacco-growers' association, had spent \$700,000 in *patented* processes alone to cure tobacco, one of which was to *bury the tobacco in the ground*; but that there was no process that in result was comparable to Barnett's. You will agree with me, Mr. Editor, when I assert that the opinion of Gen. Jno. D. Imboden, of Virginia, the chairman referred to, was the *highest* authority on this subject to be had. The committee (his associates) held his services in such estimation that they offered him four hundred dollars, out of their *own pockets*, to draw up their report. His engagements prevented him from acceding to their request.

Was it not short-sighted policy in this great interest that they did not, in their fight before Congress, have his report, it mattered not at what cost? I think so; and such an amount of valuable information as is comprised in the papers, documents, reports, &c., which were before them, and, I suppose, carefully preserved, ought yet to be condensed into a report. Let me appeal in behalf of this great, this growing interest, to Gen. Hawley, of Connecticut, as the

head of the centennial association, to see to it that this report may be prepared. To return:

J. W. Barnett and his neighbors have been obtaining the highest prices for their tobacco in the Lynchburg market. He has taken the highest prize four years consecutively at the Lynchburg fair, and made a sale of a lot of tobacco, through Murvell, Whitlow & Co., of that city, at *two dollars and fifty cents* per pound, leaf,—the highest ever obtained in that market for the quantity. Jno. W. Carroll, who took the highest medal given on tobacco at the Paris Exposition, on his world-celebrated brand "Lone Jack," bought this tobacco of Barnett, and we presume his medal was based upon it.

You will pardon me, Mr. Editor, in detailing this incident that occurred a few days since in the *live* town of Danville, Va.: I called to see my old friend, Maj. Wm. T. Sutherland, than whom there is not a more active, energetic, useful, public-spirited citizen in Virginia. He has been clothed with important public trusts by the people who know him best. Among these it is only necessary that I should say he was a member of the secession convention of Virginia, of the legislature, a member of the executive committee of the State agricultural society; in the two last of which positions it was my pleasure to be associated with him.

He manages in the most successful manner near a dozen of excellent farms on both sides of the State line, and is a large tobacco and wheat grower. When tobacco became a topic of conversation, and reference was made to "Barnett's process," he said to me, "Col., 'tis due to you that I should detail to you this incident that occurred last fall between me and one of the managers of one of my farms. Mr. I. W. Moore, in charge of my Fall Co. farm, had, as I had known, gone to Lynchburg two falls to compete at their fair for the first premium on leaf tobacco over the best growers of North Carolina and Virginia, he being a skilled manager of tobacco. Coming to my office on his return last fall, I said to him: 'Well, Moore, I presume you got the first premium this time?' 'No,' said Moore, with a chop-fallen air, 'I did not get it, Major, and what is the worst of it I *never* expect to get it.' 'Why, what was the matter?' 'Well, sir, I met a young man there from the county of Montgomery, by the name of Barnett, with the finest tobacco I ever saw, who, in a conversation with me, satisfied me perfectly that we cannot by our process of curing tobacco compete with him; and I now urge you, Major, to secure from him the privilege of curing our crop the next fall.' The Major said Moore's specimen of tobacco, with which he competed with Barnett, sold at Danville at \$76 per cwt. 'Tis unnecessary hardly to add, Mr. Editor, that Maj. Sutherland, so judicious and public-spirited, not only secured from Mr. Barnett the privilege of adopting his process on his next crop, but on the principle that a man "is a public benefactor who makes two blades of grass to grow where but one grew before," will urge his example on his brother-farmers of Virginia and North Carolina. He has the sagacity to see, as I might add, the salesmen at the *eight* large warehouses of Danville, as also several of those at Lynchburg do also, that this is an improvement that must redound immensely to the benefit of

the tobacco-growers the world over, and do more than any other one thing to prevent the accumulation at the marts of the world the profusion of what all dealers called "stuff" of the year before the last's crop. I cannot close, although at the risk of tediousness, without mentioning another interesting circumstance. In the spring of 1869, returning from a hurried trip to California, I made the acquaintance at No. 70 Broadway, New York, of the Hon. Sam'l Lawrence, the last surviving brother of that great and good man, Hon. Abbott Lawrence, who will be remembered as one of our most distinguished representatives at the Court of St. James.

We have kept up a correspondence at intervals since the pleasure derived from the acquaintance of this most excellent man. He retired a number of years ago from business, at the time one of the most extensive wool operators in the United States, and has been residing at Stockbridge, Mass. In one of my letters a year or two ago I described briefly the striking points in Barnett's process, and asked him what would be the opinion his neighbors, the intelligent tobacco-growers across the Connecticut, would think of it. His reply was so unique, so forcible and handsome that it impressed me greatly: "Why, sir, if this process you described will effect the change on tobacco you claim for it, *I will place you on velvet* when bringing you in contact with them."

Mr. Editor, could you have travelled with me over the beautiful county of Pittsylvania, where, through the ruinous policy of cutting down timbered land and cultivating it in tobacco and corn as long as it would produce, and then throwing it out to the suns to scorch and the rains of heaven to bleach it, you would be astonished, as I was, at seeing so much of it recuperated by nature and now ready to be reclaimed and recultivated. The lands there, for the most part, lie so beautifully, they do not gully and wash as in the steeper Piedmont country. 'Tis magnificently watered—a pellucid stream, never failing, threading every hollow. I tried to impress their farmers with the necessity of putting these lands in grass, and said to them what I believe, as implicitly as I do, that a kind and benignant Providence sends the antidote, in the old-field pine, to cure, to heal, to restore their worn-out lands.

I repeat, I tried to make them believe that on these lovely streams and beautiful slopes the finest watered meadows in the world could be made, that would laugh broom-sedge and all other enemies to scorn. Why, sir, I saw near Cascade in the southwest part of this tremendous county (seventy-five miles long by forty-five in width) as fine a sod as you will find in Frederick or Washington. A farmer and extensive mail contractor, who runs fifteen lines of horses, buggies, &c., and who raises his own hay, oats, corn, &c., told me he cut three to four tons of nice hay (cured) per acre, and so tall as to reach his chin, six feet as he was. Yet those good farmers were as doubting and skeptical and hard to convince as the good Dutchman in the county of Franklin on the breed of hogs. I had remarked that in all my ride through his county I had seen fine Berkshire hogs, that indicated

good sense and good judgment, and I was surprised at seeing him so far in the rear of his neighbors, and holding on to the razor-back, self-sharpening, long-nosed variety, and with legs and back more akin to the greyhound than the hog. The old man, with more force of language than care as to its politeness, replied that he had lived in Franklin county all his life, and the man who would undertake to raise a hog that could not outrun a nigger was a d—d fool!

Our friends in all these Southern counties think, because of the great want of lime in their soils, that broom-sedge will, in a few years, destroy their grass. Let them try making watered meadow, and see the influence that it (the water) produces to form a luxuriant sod. Let them substitute this for their blade-fodder, and try an experiment with sheep. Let them have the dog-law enacted, and try the use of bells on every fifth or tenth sheep to deter the bipedal and quadrupedal dogs, and my word for it they will live to thank me for the suggestion.

One word before closing: I encountered numbers of intelligent tobacco-growers in all that region, who could remember incidents in their lives inexplicable to them until this process was explained to them,—where, from floods or big rains, or leveling a floor on a steep hill-side, the loose earth at the lower side would become saturated from the drip at the upper side,—who, fearing their crop would be ruined, found it would come out in such a way as to realize the highest price. Now they see the cause, before inexplicable to them.

I hope, Mr. Editor, the character and interest connected with this communication will make up for its length, which has extended much beyond what I expected or desired.

With sincere respect, truly yours,

J. MARSHALL McCUE.

Nelson Co., Va., April 7, 1879.

[NOTE.—An interesting introduction to this communication, describing the country recently traversed by the writer, especially the counties of Patrick, Henry and Franklin, we are compelled, at least for the present, to omit on account of the pressure on our space. Maj. McCue says that if the restless people of Western Maryland and the Valley of Virginia could see some of these lands, which equal the ancient land of Canaan for fertility, and would still persist in going to Kansas and Texas, he would advise that the authorities of each State at once apply for a commission of *lunatico de inquirendo*, with its consequences.—Eds. A. F.]

Economy.

Messrs. Editors American Farmer:

Order is nature's first law, and by this fact we prove that systematic effort is the essential element for the achievement of success in every enterprise. Indeed, all law is based upon the truth of this principle. God, in nature, has illustrated its beauty and power, and in His dealing with the nations it is plainly seen. The

humblest plant by the roadside, the wild flower in the meadow, the rose and lily in our gardens, the waving corn of the field, and the giant trees of the forest, alike proclaim their divine origin: they were made by infinite wisdom, and were made *in order*. And throughout the whole domain of nature order is maintained and marks of design appear.

No wonder, then, that thus surrounded we should believe that intelligent arrangement is required for every work, even the humblest, to be assured of success. But do we act upon our faith? The truth shining all about us must be seen. The history of individuals stamps it upon our mind; but is the impression so fixed as to affect and direct our action?

The importance of an objective point in all undertakings has been the theme of many disquisitions; but, while recognizing this importance, we should not forget that judicious plans must be employed to secure a desired object. For example: a man decides to plant trees for fruit. He may have land and may buy the trees and plant them; but unless he understands the character of the orchard soil, and is informed as to the varieties suited to that soil, and knows how to plant and cultivate the trees, he will probably fail as an orchardist. But if, after this negligence of duty and wilful ignorance, he should gather fair and luscious fruit abundantly, it will be owing to the good luck of the fellow, and which, under such circumstances, will be no credit to his head or to his hands.

To desire a good thing is right, and effort to obtain it is commendable; but if through undue enthusiasm or cupidity we neglect to employ proper means, or use bad ones, we deserve disappointment and censure.

The expression "systematic effort" not only conveys the idea of energy and the arrangement of means to secure an end, but it also comprehends the judicious use of mind and material—that is, economy.

I think it is right here that so many farmers balk and fail. They have pluck and apparent good sense to direct it, and yet they "spend money for that which is not bread, and labor for that which satisfieth not."

It is generally admitted that economy in the sense of frugality is an important element, even a requisite, for success; and yet the idea has too limited an application in the practical life of a majority of our agriculturists. If a man about to commence farming should go to an auction and buy a lot of plows, harrows, &c., at a cheap rate just because he should require similar tools in his business, and never learn the actual requirements of his land as to fallow and cultivation, and not inform himself in regard to improved implements of husbandry, instead of approving his course a majority would think him not only unwise, but wasteful.

The case just stated is hypothetical, and is given in order to show the prompt verdict that would be rendered in the premises; but many persons who would contemptuously cry out, "For shame," should this be an actual occurrence, are in practice duplicating the principle of the conduct at which they sneer.

Economy, then, is

The Secret of Thrift.

Not economy in the sense of stint; for a wise expenditure of resource in money and labor is economy in its purest form and highest type. This fact is recognized by all political economists. Fifteen months ago a neighbor of mine bought 12 sheep; the proceeds from the sale of wool and lambs of that flock in one year fully paid the original outlay, and my friend had 16 head of sheep in January, 1879.

I knew another person,—a worthy man, though humble in some respects, yet, one whom I loved to call neighbor and friend; he owned about 20 acres of land and a small dwelling, where his little household was frugally reared. One hundred bushels of corn was usually raised on six or eight acres of this land. He had a large flock of domestic fowls, and countless comforts came to that humble but happy home, by the sale and family use of eggs and spring chickens. But there was no special provision for the shelter of the fowl and for saving their droppings. A small quantity of these droppings was collected every year and applied to the onion bed and patch of early garden truck, and onions and garden greens they had. One autumn he bought lumber at a cost of twelve dollars, and in three days made a neat and convenient poultry-house and yard. All the droppings in the house and where collected in quantity about the premises were carefully saved and applied to the hills of corn on five acres of land, and the result was a crop of two hundred bushels. These two cases, though differing in detail, exemplify the true meaning of economy, and show its importance. Thirty years ago nearly every farmer in this county grew flax, some had patches of cotton; this flax and cotton, and also sheep-fleeces, were wrought into fabric by the hand and the old loom, to be used as wearing apparel by the inmates of the house, whether white or negro. On almost every farm could be seen the flax-break, the hutchel, the spinning-wheel, and the old-fashioned hand-loom; now, these things are rarely to be found, and to many youth of the present they are novelties and curiosities.

Fifteen years ago 75 per cent. of the housewives of our section made soap with lye extracted from the ashes collected on the hearth; now not one family in fifty make it, except with the concentrated lye or potash balls.

Why is this? Simply because demand stimulated art to make a better road to travel, and it would not pay to go on in the old ruts; and men gradually changed their course as they learned the direction of economy.

The slow and imperfect system of handcraft could not compete with the rapid and accurate operations of improved water and steam machinery; and as men learned this, they abandoned the old mode for the new order. And no change in time or circumstances will cause a return to the old methods. In some countries the stings of the nettle leaf have been used instead of blisters for the sick; as well expect these again to be resorted to as a substitute for Spanish flies, when there is a drug store in every village and doctors as thick as Vallambrosa leaves all over the land, as to anticipate the use

of the old flax-break, spinning-wheel and unsightly lye-stand to be revived in our country homes.

Forty-five years ago a plow with a clumsy wooden mold-board sheeted with iron was *the thing*. The drag and roller was not in general use; and when corn was planted it was covered with hoes.

But a comparison of the old implements of husbandry with the modern, and of the old modes with the present, might be extended to great length; yet, after all, it is simply truth to say that all these rude tools, with their tedious and imperfect operation, though now almost obsolete, filled a place in domestic economy in their day as well as the steamboat, the locomotive, or the telegraph do in our own day. For this reason, if for no other, it does not become us to ridicule the manners of our ancestors. Uncouth they may seem to us, but their simplicity was born in earnest and honest hearts, and integrity must always command respect and admiration. We should estimate the opportunities and imitate the virtues of our forefathers. They seized the opportunities of their day and used them well, bequeathing to us examples of industry, order and economy worthy of our imitation.

We should heed the grand lesson of the dead past and of the years as they keep rolling along; which is, to live true and earnest lives, desiring the highest good to ourselves and our race, and employing the best means we may have for its attainment.

I. S.

Snow Hill, Worcester Co., Md.

Has the Time Come for Reducing the Wages of Farm Hands?

Messrs. Editors American Farmer:

In the meeting of the "Enterprise Club," published in your February number, the above question was discussed. "The prevailing opinion being that the price now paid for labor is as low as the hands and their families can live upon." Also the question was put: "are not the employers of labor throughout the world responsible in a measure for the fullness of the jails and almshouses, and for the legion of tramps that infest the country?" And the suggestion was made: "could not these evils be greatly reduced by paying liberal wages and encouraging laborers to put by a part of their earnings in some good savings bank?" Having employed farm labor for more than forty years in all parts of the United States, and being a close observer, enables me to give my experience and to form a judgment of those questions which is entitled to some consideration. As to the first opinion regarding low wages, I would say: throughout the United States the wages paid to farm labor are sufficient to support the laborer and his family and to save some. The trouble with the laboring class is not the smallness of their wages, but the growing inclination to *live above their station!* Yes, gentlemen, that is the main reason why the laboring class, *as a rule*, does not prosper. Another and fully as important reason, is, that the girls of that class, in general, are

educated above their station, being crammed with (for them) useless knowledge, and not receiving training and instruction in those branches which would make them *helpmates* to their future husbands. No man, may he be as industrious and persevering as possible, can prosper where his wife does not assist him. There is an old adage: "a man cannot provide as much as a woman can carry out of the house in her apron." If those two evils were remedied, there would be happiness and plenty in the laborer's house. As to the second question, I would state that in Europe it is true in many instances; but here in the United States, *not at all*. Our country is the "Eldorado" of the farm laborer, and it rests *solely* with him to avail himself of the superior chances offered him. Here any industrious, honest, persevering and economical laborer can obtain independence in less than ten years. Suppose a young man works for clothes and board up to his eighteenth year. If he has the will he will then know enough of work to command wages which will average through the next 8 or 10 years \$15 per month and his board. Allow him for clothes, tobacco, and other like luxuries, \$80 per annum, leaves him \$100 a year to save. Put it out on interest, say 6 per cent., and after 8 years he will have a capital of \$960 at his 26th year. He then can take a homestead, has ample money to buy the necessary stock and implements, improve and live for a year until he can gather his first crop. Where in the world has a laboring man such a prospect? and can a man of his education and habits reasonably ask for more? No, gentlemen, the farm laborer who degenerates into a tramp or a criminal, is wholly and totally the creator of his fate. Of course there are exceptions, where misfortunes, such as ill health, etc., etc., keep a man from prospering; but those exceptions are rare.

The third question of raising wages I also must oppose. First, the price of the products of the farm are so depressed that the farmers cannot pay higher wages and *live*; and next, as a consequence of the first evils mentioned, the increase of wages would *not* add to the prosperity of the farm laborer; the additional money would go "where the woodbine twineth." It would be spent in luxury not necessary to true happiness. Of this I speak advisedly. Six years ago we paid our hands \$20 to \$25 per month by the year; gave them house, firewood, garden, allowed them to keep cows and hogs and to raise chickens. Labor then was unreliable and very poor, because the high wages induced them to lose time. Five years ago the planters had to reduce the wages to \$12 to \$15, not being able to pay more. What has been the consequence: labor is a great deal more reliable, and the laborers and their families are decidedly better off. Why? Because they are compelled to throw in all their time in order to prosper. They cannot afford to lose time, and consequently the temptations to waste their earnings are not so great. They pay more attention to their domestic affairs, and domestic happiness is the result. As to inducing laborers to save money, you *may* succeed one time out of twenty.

Such, gentlemen, are the facts, and, until the laborer becomes economical and frugal, and until he learns to comprehend the station he

occupies in the national household, he will remain what he is to-day—a poor and discontented member of the national family.

Mississippi.

L. A. HANSEN.

Fall Barley.

Messrs. Editors American Farmer:

Having received various inquiries in regard to barley, I will avail myself of your valuable paper to answer them:

I sow fall barley commencing, if possible, from the 15th to 20th of August, and finish not later than the 10th of September. I think it essential to insure a good crop to get it in early, so that the roots will get a good hold and be well covered with growth before frost. I generally sow in my corn at the rate of $1\frac{1}{2}$ to 2 bushels per acre, with about 6 or 8 quarts of clover. It will be ready to harvest from the 15th to 20th of June, or just before the clover is ready to cut. A little rye sprinkled through it will assist materially in binding. It should be cut as soon as it is fit, as it shatters easily and will waste if allowed to get too ripe. If shocked carefully and housed without being wet, the straw makes fine provender for horses or cattle. The grain, when ground, makes the best food for milch cows I have ever used. The yield on corn ground which will produce from 10 to 12 barrels per acre is from 40 to 60 bushels. I find that grass-seed of every kind sets as well as in any other grain.

Spring barley is preferred by some farmers. I never have sown it, from the fact of its being exhaustive on land. It yields readily, however, and is preferred by brewers. I find fall barley quite as easy on land as wheat; it sometimes suffers from hard winters, although mine has gotten through last winter quite as well as any wheat, but on a good exposure.

C. LYON ROGERS.

Forest View, Baltimore Co., Md., March, 1879.

Public Roads.

Messrs. Editors American Farmer:

By resolution of Millstone Landing Grange, No. 119, (Maryland,) the lecturer was directed to communicate to your journal such proceedings of this grange as he might deem of general interest.

At a special meeting, held at Mr. Craddock's, the question for open discussion was: the condition of our roads and the mode of making them fit for travel.

All present seemed impressed with the necessity for good roads, and with the fact that we pay heavy taxes for repairs and get little or no benefit for the money expended. An old custom exists of throwing a little green brush into a rut or hole, and on this a few shovelfuls of earth, and then send in a large bill to the county, which latter is usually allowed.

One member, who ought to know, stated that the order of the county commissioners to the road supervisors was: "To patch the road so that vehicles could get over, but not to attempt to thoroughly repair." It was supposed that

this arose from what we deem a mistaken idea, viz: that thus the appropriation would go further. In one sense we agree it does: the money goes, but the roads in a short time are as bad as before.

All seemed willing to aid as far as in their power,—some promising teams, some labor,—provided the board of county commissioners would meet them by giving the most of the appropriation for the district to the main public road in it, and placing it in charge of a man who would agree to make that part good.

A resolution was passed that, in the opinion of this grange, a system should be adopted; that the Three-Notch Road, as it passes through the district, being the principal one, should first be taken in hand; that, as far as possible, plows, scoops and teams should be substituted for the spade, hoe and men; that the road should be twenty feet wide wherever possible, rise two feet in middle, and slope gradually on each side to the bottom of the water-way; that where roots prevented the use of the plow for that width, then that at least a single track should be made on the same principle with double track, or turning-out places in sight of each other.

A committee of five was appointed to wait on the board of county commissioners, with instructions to present our views and request the board to assist us in our endeavor to get good roads by allowing as much as possible to the road mentioned and placing the amount in the hands of an interested and responsible person, with instructions to carry out the idea of the resolution, unless a better could be had. The grange believed that thus none of the roads would be worse than they now are, and that by following up the plan we would soon have good roads which would cost very little to keep up.

The committee performed its duty, and reported through its chairman, (Worthy Overseer Bohanon,) at the regular meeting held on the 5th inst. The board had listened courteously and placed the resolution on file, but could give no definite answer.

Our hopes were somewhat raised, until we were told that, in private conversation afterwards, one of the board said he did not think we could get over fifty dollars (\$50) for the ten miles of road under consideration. At the same time he admitted that he thought they had paid at the rate of one dollar a foot for part of the road in the district. Said part, I was told yesterday, is now almost impassable.

We live in hopes, trusting that at the next meeting of the board they will seriously look at the matter and do something to give us better roads. Our roads are often a disgrace to the county, and, I believe, in a great measure the cause of the low price of our lands.

The American Farmer seems interested in the roads of the State. Perhaps you may accept this as showing that your efforts in this direction, as in others, are appreciated in old St. Mary's.

LECTURER.

Millstone Landing Grange, St. Marys, Md.,

11th April, 1879.

[The improvement of the roads in Maryland is a question hardly second in importance to any engaging the attention of her citizens.—Eds.]

Silk Culture—Management of the Worm.

Messrs. Editors American Farmer:

The labor that will (and ought to) be devoted to the raising of silk worms in this country will nearly altogether be such as would otherwise be unemployed,—being mostly women and children; and to be successful and profitable must be begun on a small scale, beginning with a few worms and allowing as many to lay the eggs that will be desired the next season; and if there should be any more cocoons, the chrysalis in them may be stifled, different methods being tried in order to find which can be most successfully practiced. A few of these cocoons might be put into water of the proper temperature and an effort made to reel a little on the common reel for the purpose of learning when and how to catch the end of the fibre and how to attach fresh cocoons when it may be necessary. Of course all silk thus wound would be valueless, because it would be in only one strand. If the common persons in France and Italy can learn to reel silk properly, I cannot believe that very many ladies among our much more enlightened farmers' families cannot soon learn to do so also. There are, I believe, several families in the interior of this State who have for many years made their dresses out of silk of their own production and of excellent quality, and I think that it will be found that such silk will outlast any that is imported from foreign countries.

The pamphlet by Professor Riley contains almost everything needed for raising silk worms, but I would most decidedly recommend that only the Moretti Mulberry (*Morus Morettiana* or *Macrophylla*) or large-leaved variety, because it is the most vigorous-growing variety, bears much the largest leaves of any variety suitable for silk-worm feeding,—the *Multicaulis* being the most inferior variety. I do not know whether it will grow from cuttings, never having tried it; but it bears a great quantity of fruit, and plants from the seed grow readily and rapidly. It is worth cultivating as a shade tree, and would prove valuable in a poultry-yard for its fruit, which is much relished by poultry of every kind as well as by hogs.

My practice in all of my trials was to allow the butterflies to deposit their eggs either on cloth or paper, which was carefully folded up and put away out of any danger from ants, mice or dampness, and when the season for hatching came round the papers or cloths were opened in some suitable place, and as soon as the little worms made their appearance small shoots about one inch long were placed gently over the worms, who immediately climbed on them, and as fast as these little shoots had a sufficiency of worms on them they were gently moved and placed where they were to be fed. I never found any difficulty in getting the worms hatched out, nor ever used either artificial heat or any additional moisture. I never gathered any leaves, but always used the small branches, and as the worms and the branches grew larger I cut larger branches, using a pair of pruning scissors, until the last stage or age, when I would cut branches 3, 4, 5 or more feet long.

I never raised more cocoons in a season than

about one flour-barrel full, and I cannot recollect ever to have had any mortality among the worms: the loss by death rarely, if ever, exceeding 3 or 4 per cent. This may have been partly owing to the fact that they were never crowded; but I believe that it is due mainly to their having been fed on branches instead of leaves. I had practiced this plan of feeding many years before I learnt that this was the plan used in California and recommended by M. Prevost there. In my opinion the advantages of feeding on the leaves on the branches, instead of stripped from the tree, are numerous and very important. By this plan of feeding the leaves are gathered much more rapidly, transported more easily and distributed more rapidly. The leaves are used more economically: not drying up so quickly; the worms will consume them entirely; the instinct of the worm to climb will be gratified, and being mounted on the branches there is a free circulation of air under and all about them; consequently they will be kept more cleanly and in better health. Their instinct to climb is so strong that every time a fresh branch is put over them they will quit eating where they are and start to climb as high as they can. Whenever it is desirable either to transfer or give them more room, they can be moved on the branches put over them a few minutes before for this purpose. They never fall off or wander over edges unless in search of food, and they are so thoroughly domesticated that I believe that they recognize the person who feeds them when he or she comes about them. As I never made any provision of leaves for a case of rain, but whenever I had to get food for them during or after a rain I merely shook the branches as fast as gathered, and not much shaking either, and yet I never had any disease or mortality among my worms, and I once thought I saw one worm drink water on a wet leaf. I have no doubt that this practice is much less dangerous when branches are fed them than when leaves only are fed, on account of the great difference in the ventilation.

If Gen. Le Duc would import some of the seeds of the Moretti Mulberry and distribute to persons requesting them, I think that many persons would be induced to try the experiment even if only on a small scale.

Messrs. Vilmerin Andrieux & Co., of Paris, France, offer the seed at 4 francs for 100 grammes, and 35 francs (about \$7) per kilogramme, or over two pounds, and small trees can be purchased from Hansen & Bro., Orleans, for a few dollars per thousand.

For the worms to spin their cocoons I found branches of the pine the best that I ever tried, no matter how freshly gathered, for as the leaves or "needles" do not become brittle when they dry up the floss silk can be collected from among them without any trash or specks, and the worms take to them very readily, and I believe that they will prove less likely to spin cocoons containing two or three worms which are useless for winding.

With sincere wishes for your welfare and the increased usefulness of your valuable farmers' friend, *The American Farmer*, I remain ever your sincere friend and well-wisher,
 Charleston Co., S. C. ROBT. CHISOLM.

[After the foregoing was in type we received the following note from our correspondent:]

I forgot in my last to preface my remarks on the mulberry silk-worm, to state that there are two other varieties of these worms that can be rendered very useful, viz: the "Arrkinde," so called from the Palma Christi plant upon which it is said that it can be fed scientifically; Bombyx Cinthice, of which the proper food is the leaves of the "Ailanthus," or "Tree of Heaven," which is quite common as a shade tree and very easily grown. The gentleman from whom I procured my eggs, (Mr. John Akhurst, of Prospect street, Brooklyn, N. Y.) not knowing until I wrote him that they could be raised on the Palma Christi or castor-oil-bean plant, wrote me that he had only one plant in a pot and when the worms were placed on it they eat it readily; but for me the young worms would never eat it, so that having no Ailanthus tree I was obliged to let them die. It is a two-crop worm, hairy and therefore *not destroyed by birds*, and rather pretty. It is only necessary to place the young worms, as soon as hatched, on the ends of the leaves of the tree, and they will, as they grow larger and older, eat their way down to the lower and larger leaflets and remain until they have spun their cocoon, which must be gathered soon, as they quickly come out as butterflies. The silk is not reeled, but carded and spun like cotton and wool, and garments made with it prove uncommonly durable. Thousands of families ought to be able to raise these worms. The seed of the Ailanthus is cheap and can be purchased from almost every seedsman, and the tree grows very rapidly and was at one time quite a favorite shade-tree.

The other variety of silk is the Bombyx Melitta and feeds upon the leaves of the chesnut-leaved oak; but as the variety of oak could not grow on any lands that I ever owned I never could give this variety of silk-worm any trial. I believe that it is, like the "Arrkinde," a worm that is hairy and can be left upon the trees to take care of itself, and the cocoon is also carded and spun and *not reeled*. Mr. Akhurst had eggs of these worms also, I believe.

Hoping that you may find the above remarks worth the time and trouble of reading, I remain as ever, yours very sincerely,

ROBT. CHISOLM.

OUR FRENCH LETTER.

Agricultural Education.

Messrs. Editors American Farmer:

In the new law, in course of being voted, on popular education, the teaching of agriculture in the rural national schools will be obligatory, and at once to take effect. This is going a little too rapidly; the greater part of the country schoolmasters are not prepared to impart the desired instruction; all that can be reasonably expected from them is, that they prepare themselves, as well as their pupils, by means of judiciously-selected treatises on rural economy.—Later, when the normal schools are inaugurated and masters duly trained, greater results can be demanded. Each department is to have its

normal school, to which an agricultural professor will be attached. Fifty professors are required, and six years are allowed to execute the programme. The supply of suitable candidates for these chairs of agriculture is at present very limited; in time, the superior agronomical colleges will meet the demand. The new professors will require to hold conferences for the benefit of the surrounding farmers, as well as to impart instruction in the normal schools; hence, a special tact is necessary for attracting adult attention. In the agricultural school of Ecully, near Lyons, advantage is taken of the Rhone to teach fish culture. Many farming societies give prizes to the proprietors of oyster-beds and fish-ponds.

Raising Horses—Durham Cattle.

It is no secret that good horses are not on the increase in France. Many departments, famous for their production of horses, have to-day no reputation. The artillery horse is the type desired. In general the horses are too light, too fine; and hence the leaning towards the omnibus horse as the ideal, which has endurance, is of a large volume, draws well and trots. There are 22 official depots of stallions in the country, yet the amelioration in the breed does not produce the expected results, because no care is taken in the selection of the mares to be covered; farmers simply aim to have a foal. It is suggested that the stallions of the State be allowed, without fee, to cover only those mares selected by competent local authorities; the receipt for the service would serve later, as a leaf from a herd-book, for purchasers of the progeny. The government also could undertake to select private stallions, and to indemnify owners for their services following mares selected.

An old Alsatian agriculturist, as the result of his experience in the standing dispute as to the milking qualities of the Durhams, states he has only pure Durhams in his sheds, that yield their average 14 quarts of milk daily; that the secret to make Durhams good milkers is not to "fatten" the stock during the first years of their existence, nor yet insufficiently feed them, for it is during the first year of the animal's growth that a pound of flesh costs least to produce. Taking food as the base of calculation, he finds no breed pays relatively better for their keep than Durhams, and they consume from one-fifth to one-fourth less rations than Dutch or Swiss cows.

Effects of Beet Culture on the Soil.

Liebig was the first to raise his voice against the exhaustive nature of beet cultivated for sugar. He showed that all the alkalies contained in the roots were concentrated in the molasses; hence the "fatigue" or exhaustion of the soil within a short period. Potash is absolutely necessary in the functions of the plant to produce sugar, and even when returned directly to the soil it fails to restore the latter's vitality for beet cultivation. This apparent anomaly is due to the fact that the organic matters of the surface soil rapidly seize and retain the salt, while beet, being a tap-rooted plant, draws its food from the depths of the soil where the sustenance is limited, and so becomes insufficient after a few crops of beet. This is the explanation of many why the soil of Saxony and of other regions now fail to produce sugar-beet; or if so, a dimi-

nution of two-thirds in the yield. Soils repel the plant, and the latter about July commences to fade, sinks into decrepitude and rots—the leaves last. If a vertical section of the root be now made, the tissue will be found covered with red rings—commencement of decomposition. These roots yield little sugar and the pulp will not preserve in trenches; even when sound, the sick roots communicate contagion to a whole pit. The soil occasionally displays signs of weariness one season, recovers another, but relapses into more intense fatigue afterwards. In addition to the explanation or exhaustion, Messrs. Liebscher & Marker, of Halle, have discovered the presence of a parasite, called *nematode*, which is as numerous, and propagates as rapidly, as the phyloxera itself.

Fattening Poultry

by machinery and special food is a plan very extensively employed in France and with profit. Many dislike fowls thus prepared for market. The flesh is very white and very insipid, and, though plump-looking, the bird on being roasted shrinks to small proportions. Dr. Petermann has analyzed the manure of birds thus mechanically fattened and which he calls *poulaine*; it contains 12 per cent of water, 26 of organic matter, 34 of soluble and the rest of insoluble salts.

Items.

A Polish harrow, by M. Cichowski, is favorably spoken of. The teeth are not fixed, as ordinarily, but consist of 24 iron bars of various lengths, the ends forming the teeth; each bar independent, movable, (like the key-board of a piano,) and attached to an axle,—forming a frame on three wheels.

The French government has prohibited the importation of potatoes to its colony of Algeria, unless previously washed. Why, no one knows.

M. Cantoni, director of the Agricultural College of Milan, reports favorably on Messrs. Lefeldt & Leutsch's machine for "skimming" fresh milk, and making butter, by centrifugal action.

Paris, March 27, 1879.

F. C.

The Enterprise Club.

Messrs. Editors American Farmer :

According to custom, the club met on Saturday, the 5th inst.,—it being "the Saturday on or before the full moon," which governs the time of our meetings. We adopted the plan some years since; consequently never have dark nights to journey homeward.

We are sometimes called, by rivals, "lunies," "moonshiners," etc. But we do not mind that. We have the moonlight nights;—let them have the sport and the dark ones. Although we prize the moon as a lesser light to rule the night, we members of the Enterprise Club do not let it rule our affairs by day. We do not butcher swine, plant fence-posts, nor dig potatoes, by its signs.

We met on the 5th inst., at the residence of B. H. Miller. Roger B. Farquhar was chosen foreman, and B. H. Miller elected secretary for the ensuing year, (Chas. H. Brooke serving for the day.)

T. J. Lea, from the stock committee, reported some yearling Short-horns raised by his father, E. Lea, that weighed 585 to 600 lbs. Some two-year-olds raised by himself weighed from 1,150 to 1,200 lbs. The same gentleman also reported an experiment of feeding cob-meal and plain corn-meal (same value) for an equal length of time to the same cow. The result was decidedly in favor of the cob-meal. Of course, other experiments must be made,—as "one swallow does not make spring."

The question for discussion at this meeting:

Would it be Profitable to our Farmers to Sow More Orchard Grass?

called forth a limited discussion,—only a few of our members having had experience with it.

Those who have sowed it, to a man, are favorable to its cultivation. Samuel Hopkins considers it to be a weak grass. He had had no trouble in getting it to catch, no matter where or when sown; has sowed it in wheat when knee-high.

R. B. Farquhar sows it always on wheat in the spring and has no trouble to get a stand.

T. J. Lea is enthusiastic on orchard grass. His stock are very fond of it; do well on it; and it affords excellent and abundant early and late pasture. Generally sows the seed with oats; has had unfailling success in that way.

Fred. Stabler sowed some orchard grass in new land on a steep hillside. Is very much pleased with it; it afforded a great deal of pasture.

Not a voice was heard objecting to orchard grass. Hence we may conclude it would be profitable for our farmers to sow more of it.

A member was advised to sow a *poor field* in black-eye peas, to be plowed under green, in preference to sowing it in oats, without fertilizer.

Questions.

Is it to the best interest of the farmers of Montgomery county to have a commission man to sell loose hay from wagons in Washington city? A diversity of opinion was expressed. A majority seemed to think that we gained nothing by having a middle-man to support between us and the consumer. They agreed that by employing a middle-man to purchase hay for them the buyers kept out of the market and there was less competition,—consequently lower prices.

Chas. Stabler, on the contrary, is very favorable to the middle-man. Thinks the hay market in Washington has been much more steady since middle-men have been employed to purchase and sell hay. He has hauled more hay to market than any other gentleman present. Used to have to stand on the market until one or two o'clock in the day, and sometimes hold over until the second day. Under the present system has no such trouble; can sell almost immediately at a fair price, get on a back load, and return home in good season.

What is the best way to mark off corn-rows to make the most corn?

Several said: to make most corn, lay off one way 4 feet and plant 20 inches in row.

But very few now advocate step corn for profit, taking into account the extra cost of labor required in keeping it clean. Most members prefer chequering 3:9 each way and two stalks in the hill.

We do not aspire to raise 25 or 30 barrels of corn per acre, as do our friends of the Gunpowder Club, but we do challenge them on wheat and potatoes, and possibly hay. N. E. D.

Sandy Spring, Md., April 9, 1879.

Deer Creek Farmers' Club.

Influence of Food Upon Stock.

The regular monthly meeting of the Deer Creek Farmers' Club took place at the residence of Mr. Wm. D. Lee, on Saturday, April 5th. The subject for discussion was, "The influence of food upon stock." We quote from the *Aegis*:

S. M. Lee remarked that man is said to be found in the highest perfection where wheat grows to its greatest perfection. The influence of food upon stock is marked. Without food of good quality the best animals, from the purest strains, deteriorate and become unshapely.—Many years ago one of the first Durlam bulls was introduced into this county. The food and care he received were so different from that to which he had been accustomed that his stock fell into disrepute. He had seen hogs from stunted varieties worked up by good feeding, independent of the introduction of what are called good breeds, into good animals. He had also seen improved breeds deteriorate from want of care. Farmers have depended too much on the purity of breed alone. There must be increased care, a better quality and abundance of food to keep up the standard character of improved stock.

Judge Watters said he believed in good feeding if you have good stock, and he regarded good feeding more necessary even than good stock. First, they must have good grass. Young stock should be fed on bran and oats, particularly oats, which makes muscle. To fatten cattle corn is best, but for growing cattle oats are better. He did not approve of clover except as hay, than which nothing is better.

As being connected with the subject, Judge Watters asked the club if orchard grass would make a permanent sod. A desultory conversation sprang up, many of the members being of the opinion that it would not form a close sod, and if not pastured closely will grow up in bunches. Mr. Janney thought it the greatest grass that grows, and agreed with Thos. A. Hays that if three bushels of seed were sown to the acre it would make a close sod. Mr. Rogers said it grows from where it is cut off and is affected by dry weather less than any other grass. Geo. E. Silver said it starts earlier and lasts longer than any other grass. Mr. Moores said that in seeding 20 acres, one-fourth of it in orchard grass would be all a man would want. He would not mix the orchard grass with clover and timothy, as it would not make a close sod. By having it separate, as it starts early your cattle have the advantage of it before other grasses start. He thought it would make the land poor. S. M. Lee thought it was not as rich as other grass.

The regular discussion being resumed, John Moores said that it takes corn and grass to fatten cattle. He was not disposed to attribute so much to the influence of food, and mentioned a case of

a neighbor who always raises fine colts and never feeds them any grain. That fact appeared to upset a theory he had held that colts must have oats to make muscle. He had once thought that by feeding cows to their full capacity you would get more butter; but had discovered that it was a mistake. He had made more butter by feeding them corn, oats and bran, a little less than they will eat. Bran will increase the quantity of butter.

Geo. R. Glasgow thought that with better feed, both winter and summer, stock ought to improve.

Johns H. Janney read some analyses, showing the relative value of corn, meal, bran, oats, clover hay, timothy, &c., for forming fat, flesh and muscle.

William Webster thought an animal would improve by proper food and as much as it would eat without over-eating. In raising calves they should have as much milk as they will drink, and at four weeks old a spoonful of cooked corn-meal in their milk. The amount should be increased as they increase in age and size. The same with horses. After an animal arrives at maturity it does not need the same kind of food as when growing. Hay fed with corn will fatten cattle better than fodder or straw. York and Lancaster county farmers keep their cattle as closely as possible in stables, sometimes even carrying water to them, keeping their stomachs full. Not so with young stock. If fed too much at a time they will become pot-bellied. If young animals are fed regularly they will not eat too much at a time.

Mr. Janney remarked, in relation to feeding calves on milk, that he had seen an analysis of unskimmed milk, of skimmed milk, and of oil cake, and by placing oil-cake in skimmed milk it restored all the elements taken away in the cream.

Thomas Lochary said stock ought to have as great a variety of food as possible to make them healthy and thrifty. The more he used clover hay the better he liked it. Feeds calves on raw meal as soon as they will eat it.

A member asked if there was not danger of scouring with raw meal. S. M. Lee replied that there was not, if fed in small quantities.

Thomas A. Hays said he believed in the best feed and would first take clover hay, cut and put up at the right time. But he liked a change. Then good fodder; then oats, straw and timothy. Orchard grass mixed with clover makes good hay. Is feeding his cattle on pure corn-meal and never had cattle do as badly. He did not think it was from the feed, however. They will do better with one-third bran mixed with meal. He did not think cob would answer in place of bran. The pure meal was too rich. Some farmers think fine meal important, but he had found that cattle relish coarse meal and do better on it. You must feed differently for different purposes. Feeds his cows two-thirds bran and one-third meal, besides roots.

Geo. E. Silver thought food had great influence on stock. You can feed too little, as too much. You can feed to fatten, for milk, or for muscle. A milk cow should not be fed as you would feed a fattening steer. It is an admitted fact that corn will fatten, but it don't make milk. Bran

is better for that purpose. The practice among dairy people of feeding slop, encourages disease among cattle.

James Lee feeds cattle meal, fodder, hay and oat straw. Is now feeding corn and cob-meal to 45, giving them from 5 to 10 lbs. each a day. They would eat twice as much if permitted. They are doing well. They get fodder in the morning and hay at the middle of the day and in the evening. Mr. Lee said he was convinced that coarse meal was better than fine.

Mr. Glasgow remarked that it appeared to be an open question whether meal should be fed coarse or fine, and knew several good farmers who preferred it fine.

Mr. Janney preferred coarse meal; but if mixed with other things, the best results were obtained from fine meal.

Wm. Munnikhuysen thought it important to have good food and feed judiciously. He did not like cut hay or straw for horses, on account of its tendency to give them colic. It is a good plan to dampen oats a little. It lays the dust and prevents horses from choking. Soaks corn when hard. If a little bread soda is thrown on, it will never give horses colic. The same with green corn. Soda is much better than salt. The latter makes them thirsty; they drink too much water and get the colic. Chop should always be fed very carefully. In the plowing season he has had horses gorged on it, and it has given them the colic.

James H. Ball said he differed with some of the members, in regard to feeding beef cattle and cows. If he wanted to make a quantity of milk he would feed on slop or bran. For butter, yellow corn-meal is better than anything else. It makes butter of better color than white meal. In the vicinity of New York thousands of barrels of swill are fed to cows every day. It makes an immense quantity of milk, but does not add to the health of the animal or cause it to put on fat. Where pigs are fed on whey, at cheese factories, they will grow in flesh, but their bones won't grow. Often their bones are not strong enough to sustain the weight of their bodies. In regard to feeding corn meal during the plowing season, one spring he fed it to his horses very heavily, and they became so stiff in their joints as almost to fall down. To get the full benefit of corn and cob, they should be ground tolerably fine. He never knew a steer to get off his feed when corn and cob were fed dry together.

R. John Rogers said his experience in feeding chop was opposite to that of Mr. Munnikhuysen. He was decidedly in favor of feeding it to horses when regular at work. They should have it once a day at least. Cattle do better when fed on that which they most relish. A change of food is therefore advisable. Mr. Rogers said that where many horses are kept, it is customary to feed a great deal of chop.

Mr. Ball was opposed to feeding chop to horses, as cutting hay or straw sharpens the points of the blades, causing injury to the intestines. He had known horses to die from the use of it.

Wm. F. Hays (the secretary) thought that grass dry or green is the most substantial and natural food of stock. Other food is artificial.

Silas B. Silver said the character of food had great influence, especially on young stock.—Small stock—pigs, calves, sheep, lambs, &c., when young should be fed gradually, and the amount increased all the time. Too little is a great loss, and too much almost as bad. We ought to feed for certain purposes. Oats is good to make muscle, but corn for fat. He feeds for milk principally, having many sheep. If he could obtain it, would feed during the winter on rye, as it is the cheapest feed for ewes, to make milk. He also feeds turnips, preferring the Yellow Aberdeen. Sheep and lambs will stand stronger food than most animals. They digest all they eat. He feeds his ewes whole grain, and for the lambs cracks the corn, sifts the meal out, and feeds the cracked corn alone. They will not do so well on oats. He recently noticed that his lambs appeared to be off their feed, and gave them a little salt. The next time he fed them they ate the same quantity they had been eating. We should feed according to what we want to produce,—beef, muscle or fat.

R. Harris Archer (the president) favored coarse meal for work-horses, but would have them fed on anything they would do well on. Would give a man charge of them, and make him responsible for their appearance. If he wanted chop, he could have it, or if he wanted to feed on soaked corn he might do it.

The committee of inspection (Messrs. Janney, Silver and James Lee) reported on the condition of the stock and premises. They especially commended a fine yoke of oxen, and noticed some good Berkshire and other pigs.

Messrs. Janney, James Lee, Lochary, George E. Silver and Thomas A. Hays, the committee appointed by the club to examine the contrivance, invented by Judge Watters, for fastening and unfastening cattle in their stalls, made a favorable report.

The club adjourned to meet at S. B. and Geo. E. Silver's, on Saturday, May 3d.

Green Crops for Manures.

At a recent meeting of the Montgomery Co. Farmers' Club, Mr. B. D. Palmer read an interesting paper on this topic, which we regret we have not space to give entire.

The writer starts out with the assumption that most of our lands are deficient in organic plant-food, and to correct this defect without unreasonable expense is the problem which it has long baffled the great mass of farmers to solve.

Stable and barn-yard manure would supply the vegetable matter extracted from the soil by each and every crop, but in most cases the supply is not equal to the demand. The inorganic constituents can be replaced by the judicious application of lime and commercial fertilizers, but they do not restore the vegetable matter extracted from the soil.

On a large scale, the requisite organic plant-food can be cheaply supplied in but one way, viz: plowing under green manures, such as clover, rye, field-peas, buckwheat, &c. Mr. Palmer gives the preference to clover for the purpose, but proceeds to demonstrate that cle-

ver is not the poor man's manure, as a rule. It has serious drawbacks in this respect: 1st—Two years are required by the usual process to obtain the crop to plow under. 2d—The expense and extreme uncertainty of getting clover to set on very poor land, such as most needs improvement. And even when a fair set is obtained on this land, there *will* be some poor spots remaining bare, which will get no benefit, though most in want thereof; whereas the occasional rich spots will receive a liberal addition of vegetable matter: a clear instance of that unjust discrimination which tends to make the rich richer and the poor poorer.

Fortunately, he contends, the impecunious owner of impoverished acres has at his command an agent more comeatable than clover. At very slight expense, a luxuriant growth of peas or buckwheat can be obtained on extremely poor ground, storing up nitrogen and other valuable plant-food from the atmosphere with which to endow its impoverished mother earth. It has been stated on good authority that the nitrogen in the pea crops (nearly all of which is elaborated from the atmosphere) is fully equal in amount to that in clover.

Boussingault (equally renowned as chemist and farmer) in his "table showing the relative values of decomposed vegetable manures, from nitrogen they contain," (taking good farm-yard manure as the basis of comparison,) states that "45 lbs. pea-straw manure equals 100 lbs. farm-yard manure."

The venerable Mr. G. C. Gilmer, of Virginia, widely acknowledged as the authority on the pea and buckwheat fallow for wheat, says:

"From 1st to 10th of June, I sow 1½ bushels of peas, a bushel of plaster, two bushels of oyster-shell lime, and one or two bushels of salt to the acre, and thoroughly cover all at the same time under one operation."

Mr. Gilmer thinks that in dry seasons the pea fallow is the best for wheat, but, if the season suits, he decidedly prefers the buckwheat.

Turning under green crops produces an exceedingly happy effect in mellowing stiff, tenacious soils. On light soils some advise pasturing down with hogs and sheep before plowing. But on heavy land it is best to turn under all that will grow. Another valuable mechanical property is its prevention of hilly lands washing, if properly plowed, as every furrow is filled with a mass of vegetable matter which holds the soil, while allowing the water to filter through. A good growth of buckwheat or peas will smother all weeds and briars, and clean the land most effectually.

Mr. Palmer proceeds to detail his own experiment in the use of peas and buckwheat, as follows:

"In the fall of 1875, I seeded to wheat and grass a 16-acre field which is divided by a spring branch into two lots of 9½ and 6½ acres respectively, and of entirely different character of soil. The succeeding summer the 9½-acre lot, which is good land, and nearly level, produced a fine crop of wheat; while the 6½-acre lot (hilly and thin) brought me in debt. Clover generally failed to set that season. On the 9½-acre lot the timothy set sufficiently for indifferent pasture

the following summer; but on the 6½-acre lot not a blade of grass put in an appearance, save a partial set of clover on a strip I had top-dressed in the winter with manure fresh from the horse stables. Hardly a weed grew on the balance of that lot that summer, though briars were plentiful. In 1877, I plowed that naked 6½-acre lot (with the exception of the little strip of clover,) and on June 9th and 14th seeded a portion of it with black-eyed peas (1½ bushels per acre,) and on June 14th, the balance with the buckwheat (1½ bushels per acre.) Both made a fine growth, the buckwheat being particularly heavy. I was compelled to pasture the field for my cattle's sake, but not severely. August 8th, I started the plow and turned under the whole business, without unnecessary delay, and seeded the field with Fultz wheat, (commencing Sept. 29th,) fertilizing the entire 16 acres equally with 400 lbs. per acre of a mixture of one part 6 per cent. guano (Lobos Island) and two parts dissolved bone-ash. I verily believe that if it had not been for that long buckwheat in the furrow the entire soil, seed and fertilizer, would have been washed off the side of that hill by the tremendous flood of October 4th. The field produced 423 bushels of wheat, an average of 26½ bushels per acre, threshed from the shock July 2d, 1878. I could not well thresh the lots separately, as in order to keep the steam thrasher going I was obliged to keep one wagon hauling from the nearer portion of the field while the other was loading at a distance, but as nearly as I could compute by a careful estimate, based on counting the number of shocks (dozens) on each lot, and noting the yield of each wagon-load, (knowing the number of shocks it contained, and which lot it came from,) the 6½-acre lot which had been treated with green manure yielded about 33 bushels, while the good land (9½ acres) 22 bushels per acre. The 6½-acre lot had nearly twice as much straw. The field now is evenly set with grass, while the briars no longer adorn the hillside.

I would advise sowing the peas early (they are not as rapid as buckwheat) say the latter part of May, that they can be plowed down as early as possible, so that the ground may become compact before seeding-time. Early plowing is absolutely necessary to a good crop of wheat on our lands.

The best results can be obtained by using lime in conjunction with green manure, as the vegetable matter returned to the soil forms the best possible basis for the action of lime.

The Demonstration.

Messrs. Editors American Farmer:

You request the proof of the easy susceptibility of improvement of the lands of the Middle and Southern Atlantic States. It is founded upon the capacity of the lands in question, plenty of which can be bought for five dollars and much with buildings and fences for ten dollars per acre.

Three dressings of half-ton of acid Carolina rock at each dressing, in the course of six years, or an equivalent of Kaint and fish guano can be obtained for ten dollars per acre. Baugh is

offering nitrogenized bone at \$20 per ton; the Canton Company, the acid rock for \$20; Ober & Sons for \$21. Kainit is worth not more than \$10 per ton.

Now in a rotation of six years with corn, oats, wheat and grass at the commencement of the seventh year, or the end of the sixth year each acre will have received $1\frac{1}{2}$ tons of bone or its equivalent, and will yield equally as well as land improved and selling at \$60 per acre.

Now, assuming two farms of 250 acres, one costing \$15,000, the other \$1,250; the outlay to commence on will be nearly equivalent in value. We will spend or require on each farm about from \$2,500 to \$3,000, as the best farm will require more cattle and horses, more machinery and improvements, and to keep it up or improve it will require more manure than raised on the land. Supposing this review correct, we have at the commencement reduced the capital on the poor farm \$3,000, and added to the cost of the best farm \$3,000. Now we can, with the balance remaining of the \$15,000 by the accruing interest and a further outlay of an additional \$4,000, bring the poor farm up to equal in productiveness the best farm in six years, by the simple application of fertilizers three times, at the rate of half-ton per acre, and we will have a residue of capital of \$8,000, with the interest of which we can continue the improvement, and the poor farm costing less than the amount used on the best one, will pay six per cent. on the investment, while the best farm will pay only three per cent. on its investment.

To enter fully into the data to prove this would occupy too much time and space in your valuable *Farmer*. We want to show the favorable condition and adaptability of our poor lands for improvement. The requisite is capital; its almost entire absence prevents the farmers in Maryland and Virginia from the realization of their advantages. Many men who own land have neither the faith, knowledge or management—even where they have the means to carry forward improvement. There has been a great advance in the knowledge and composition of fertilizers. Their manufacture is much cheapened by machinery, and large capital is embarked in their manufacture.

Every farmer can by experiment determine the exact requirement of his land. There is one drawback in this State—to apply as one might suppose certain articles—for the purpose of ascertaining what land absolutely requires. It is an essential preliminary necessity the farmer should know what the article he experiments with really is—its exact composition and value; and here our State fails us: our only reliance now is upon the honesty of the manufacturer. My impression is our manufacturers around Baltimore make up or use nothing except valuable fertilizers—raw bone, South Carolina rock, sulphuric acid, kainit, muriate potash, burnt animal bone, fish guano and blood and meat scraps; yet we are kept in the dark about the exact proportions, and we cannot fully rely upon our experiments on our lands.

In conclusion, Messrs. Editors, we admit the first six years the production of the best farm

will double the production of the poor one; yet will not reach a difference of \$8,000, not charging the difference of capital, the one of \$18,000 against the other at \$15,000. It must be borne in mind there is a limit to improvement. It costs less to bring land up to 10 barrels corn than to carry it from 10 bushels to 20 barrels, and so on for wheat or any other crop. There is a well-defined profitable limit, and this inures to poor lands. Their deficiency is easily discovered, and for the most part consist of the absence of phosphoric acid, potash and nitrogen. Yours, A.

Baltimore Co., Md.

Live Stock.

Feeding Cattle.

Messrs. Editors *American Farmer*:

I will occupy a small space in your columns, giving the results of feeding a lot of steers: not that I can suggest anything new in this branch of farming, or what is not already known by all of your readers. But having had my attention directed this way for several years, I may possibly impress upon the minds of some of my brother-farmers facts which they, like myself, have known for years, but have failed to carry out in practice, namely: the importance of selecting suitable animals for feeding purposes. Some of the most important points to observe are heavy hind-quarter, broad hips, straight back, with light head and horns. These requisites are to be strictly observed,—not forgetting disposition, as a wild, high-headed steer is not apt to prove a kind feeder. This class of cattle can always be had for about $\frac{1}{4}$ c. per lb. more than what would be considered good feeders, and will command $\frac{1}{2}$ to $\frac{3}{4}$ c. more when sold.

My experience the past winter was, on the whole, entirely satisfactory; but I think I can increase the profits by following up the above rules more closely in selecting my cattle.

I purchased ten steers on the 26th of October, weighing 11,430 lbs., (an average of 1,143 lbs. each,) at 4c. per lb.; expenses for toll and driving, \$4.30;—total cost, \$461.50. Commenced feeding lightly on short corn while on grass, and continued until first week in December, when I put them in stable and fed them one peck crushed corn and cob each per day; continuing this quantity for four months; changing six or seven times to pure corn-meal, and corn and oats in equal parts, (ground, of course,) together with all the hay and fodder they would eat. They consumed in the 150 days what was equal to 30 bushels of corn each, (value here 50 cts. per bus., or \$150 in all,) which, added to first cost, makes \$611.50.

I sold them on April 3d, weighing 13,230 lbs., at prices ranging from \$5.37 $\frac{1}{2}$ to \$5.90 per 100 lbs.;—total receipts, \$745.23. Leaving \$133.73 and manure, for dry food, labor and expense of selling.

ASA M. STABLER.

Montgomery Co., Md., April 11, 1879.

Salt for Stock.

Messrs. Editors American Farmer :

In the proceedings of the "Haymarket" Agricultural Club, published in the *Farmer* for April, I find that Col. T. A. Buckner takes a very decided stand "for salting stock."

Salting stock may be agreeable to the stock; but if it is a necessity for their welfare, is, in my humble opinion, a very open question. Mr. B. cites the experience of such successful stock-feeders as Col. John Harrison and the Messrs. Rogers as proof for salting. Did those gentlemen make competitive trials? Because our fathers considered salting a "*conditio sine qua non*," is it therefore proved a necessity? There is also no reason why our stock should be constipated; proper variation of food will prevent it the same in stock as in man. Nevertheless, I would not be so decided in my opinion that salting is not a necessity, if I had not before me the experience of nigh fifty years in those parts of Europe where the best and most stock is raised, and where the dairy produce has taken the premium of the world. In those countries it is not now and has never been used as a diet, and still the stock is thriving in the highest degree and productive.

In my estimate, the taste of animals can be educated like that of man, and a food or stimulant which at first is disliked may in course of time become agreeable, and in many instances indispensable to comfort.

I beg to be understood that I am not averse to salting. On the contrary, I have followed the custom of the country,—as I have found salt to be a relish to stock. I only question its necessity.

L. A. HANSEN.

Mississippi, April, 1879.

Salt or no Salt.

Under this caption the *Jersey Club Bulletin* copies a portion of the article of "Lapstone" in our March No., and the assistant editor, Mr. T. J. Hand, adds the following note from his own experience:

"I have given my cattle no salt for several years while on grass, but the pastures have been dressed with a mixture containing some sulphate of soda; and none in winter except what they got in the hay which had been moderately salted when put into the barn. Towards the end of the past winter, however, they seemed to relish better and to eat cleaner their scalded feed of chaffed corn fodder, bran, and meal, when a little salt was added as a condiment."

Jersey Steers and Oxen.

Colin Cameron, of Brinkerville, Pa., writes as follows to the *Bulletin of the American Jersey Cattle Club*, with reference to the article from A. P. R. under the above heading, which appeared in its February No., taken from the same month's issue of the *American Farmer*:

On the 15th of November, 1878, I stabled sixteen pure Jersey steers to fatten for market next May. Six of them will be 3 years old in April and May; five will be about 2½ years old; and five 2 years old about that time. Their total weight when brought in was 11,675 lbs.

Their gain for the first month was 565 lbs., or say 35½ lbs each; for second month, 775 lbs., or 49 lbs. each; third month, 1,070 lbs., or 67 lbs. each; and for the fourth month, 1,330 lbs., or 83 lbs. each. The total aggregate gain during four months is 3,740 lbs., being an average of 234 lbs. each.

I have fed Short-horns all my life, and never had one make a gain equal to the last month's average of the best five of this lot, four of which gained 141½ lbs. each, and one of them 160 lbs.

Breaking Colts.

Colts, says the *National Live-Stock Journal*, should be halter-broken when following the mare; it helps to subdue them, and supersedes the necessity of breaking them over again when grown up. "Once broken always broken" is an axiom as old as the art of breeding. It is advisable to break them to harness at two and one-half or three years old. They will receive no injury from careful usage in light vehicles. The most practicable mode of subduing wild colts is to hitch them up with a well-broken horse, and teach them by example to perform service.

The first step is to bit the colt—to make him bridle wise. This is accomplished by checking up the head with the biting bridle. They may be turned into the yard to run at large, taking care that their heads are not left strained up more than one hour at a time. The head should be let down often to give the neck rest. It will prevent their contracting a coarse, unpleasant hog mouth. After they become accustomed to the bit, they should be driven in harness, without any load, for several days till they yield implicit obedience to the bit, and obey with alacrity the word of command. They will become comparatively broken by the simple process of suppling the neck, and teaching them to stop and go forward at the will of the driver.—They will seldom offer any resistance when hitched to the vehicle. Patience and perseverance will accomplish wonders in horse-flesh. Intelligent instruction improves the disposition and develops the speed and endurance of colts—essential qualities in the roadster. The more good qualities developed when young, the greater will be the merits of the recipients. Those subjects that will do the most work in the least time are the most profitable to the owner. It costs no more to keep or raise the fast worker than it does the slow mongrel. The former will perform twice the service of the latter. The best are the cheapest to wear out; besides there is pleasure in using a superior animal.

Colts should be broken to harness before they get so strong as to control the driver. They are not perfectly developed for hard work before they are five years old. Gentle usage at light work for one or two years will bring them into submission. They will become accustomed to different kinds of service, and the force of habit

will make them kind and trustworthy. When broken under the law of kindness, they seldom contract vicious habits—they are not naturally vicious; they are made so by ignorant or brutal drivers. Incompetent trainers make balky horses. They use too much brute force without reason or common sense. They appeal to the lowest passions, in place of intelligent instruction. Reason is better than force to govern the horse—kindness is the weapon to subdue the wild colt. This humane law removes terror, and secures the confidence of the colt in his driver; and, so long as that confidence is not abused, they will yield implicit obedience to the word of command. When the wild colt is trained under the law of force, he becomes terror-stricken with fear, and fights back to relieve himself from oppression; and, having the advantage of superior strength, often triumphs over his trainer, and contracts the vice of rebellion. This vice lives on to be interred with his bones.

Use Only Thoroughbred Bulls.

We cannot too often nor too urgently recommend farmers, says the *National Live-Stock Journal*, to use none other than thoroughbred bulls upon their herds. No matter what the breed may be that is chosen—whether it be Short-horn, Hereford, Devon, Ayrshire, Holstein, or Jersey—the male should always be a purely-bred animal of the race. Occasionally we find grades that have proved impressive sires, but such instances are very rare, and constitute the exception rather than the rule. There is a mysterious influence, not at all understood, and which the ablest scientists have scarcely attempted to explain, that follows the use of a thoroughbred male upon a stock of mixed blood. It shows itself in increased size, greater vigor, and better feeding qualities—very often in these particulars excelling the thoroughbred parent—and it is worthy of especial notice that, in general, the more purely bred the male may be the more marked appears to be the effect of the cross. With cattle raised especially for beef, it shows itself not only in greater weight attained from a given quantity of food, but in an improved quality as well; so that while the farmer may, by the use of such a bull, not only raise more pounds of beef from the same amount of food, he will at the same time produce animals that will bring a better price for the same weight than when breeding from common stock. Even the Western ranchmen have found that the calves got by a good thoroughbred bull will, when three years old, sell for an average of at least 33 per cent. more than those of the same age and that have had precisely the same treatment, got by bulls of mixed stock.

Grade bulls rarely possess this magical element of prepotency. As we have attempted to show, in another article, on our first page of this number, the good effects that are supposed to follow cross breeding are only realized when one of the parents is purely bred; and in these times of close margins and active competition, when our farmers upon their high-priced land find themselves confronted in the market with cattle

that have been raised upon the Western plains, they cannot afford to throw away any of the aids to success. The time has gone by when a single farmer in any of the States can compete successfully, in the markets for beef cattle, unless he uses a thoroughbred bull. He can no longer afford to use a scrub or even a grade bull. He must use thoroughbred males only or quit the business.

Fortunately, good Short-horns are plenty, cheap, and widely diffused over the country, and there is no longer any excuse for a failure to use them. But we want to impress upon the minds of our readers the importance of knowing that the animal to be used is a *thoroughbred*. Be assured that nothing short of this will fill the requirement. Grades may look as well—even better; but when they come to be used for purposes of procreation upon an already mixed stock, they will fail to effect material improvement. Farmers never had so favorable an opportunity of buying good bulls as they will have this spring, and there never has been a time when they were so imperatively compelled to have them.

In view of the fact that the chief value of a bull for breeding purposes depends upon his being really what he is represented to be—a thoroughbred—farmers cannot be too careful in making their purchases. For the form of the animal—which should never be overlooked—the eye can be its own judge; but for the pedigree the purchaser must rely mainly upon the integrity of the breeder. Hence the great importance of buying only from reputable and reliable breeders; and the danger of dealing with mere traders and commission men, who have no reputation at stake, and who neither know nor care how the animals they offer for sale are bred.

Fat Stock Show for 1879.

The Illinois State Board of Agriculture have issued their premium-list for 1879 for the best and second best fat steers and cows, at the exhibition at Chicago, commencing November 10. The animals are to be thoroughbreds, and the classification is as follows: 1, Short-horns; 2, Herefords; 3, Devons; 4, other pure breeds (not named); 5, grades or crosses; 6, sweepstakes rings, open to all; 7, grand sweepstakes, open to all; 8, car-loads not less than 6 head, to weigh not less than 2,000 lbs.; 9, dressed bullock; 10, heaviest fat steer.

The premiums offered in each of the first five classes are as follows:

Best steer, 4 years old and over, \$25; for second best, \$15; for best 3 and under 4 years, \$25; second best do. do., \$15; for best 2 and under 3 years, \$25; for second best do. do., \$15; for best 1 and under 2 years, \$25; for second best do. do., \$15; best cow, 3 years old and over, \$25; for second best do. do., \$15.

In the sweepstakes rings, open to all, best steers, 4, 3, 2 and 1 year old, and best cow 3 years old or over, each, \$50. In the grand sweepstakes, open to all, do. do., \$100. For best car-load, 4 years old or over, not less than 6 head, and to weigh not less than 2,000 lbs. each, \$200; for second best do. do. \$100; do. do., under 4 years, 6 head, not less than 1,700 lbs. each, \$200; do. do., 3 and 1 year old, each \$200; for second best do. do., \$100. For best dressed bullock, \$50. For heaviest fat steer, 1st premium, \$75; 2d best, \$50; 3d, \$25.

The Dairy.

Corn and Cob Meal for Dairy Cows.

Messrs. Editors American Farmer :

At the earnest solicitation of several friends I have made the following experiment with feeding corn and cob or crushed corn to one of our milch cows: The cow has been milked all winter, and fed regularly on cob meal and all the hay of best quality she would eat. On the 18th of March I began to weigh her feed, and gave 4 lbs., night and morning, of the meal, and hay as before. In six days following the yield was 108 lbs. of milk. We then commenced to feed an equal money value of pure fine ground corn meal and hay just the same. Did not weigh any milk for four or five days, so that all of the good or bad effects of the cobs might disappear from her system. The milk was then weighed carefully for six days and the result was found to be 96½ lbs.,—showing an apparent advantage of 11½ lbs., or nearly 2 lbs. per day, in favor of cob meal.

I send the above for the *Farmer*, hoping it may do some good by getting others to experiment in the same line and report for the benefit of others. A single experiment like mine of course proves nothing, as all dairymen agree that cows are so much affected by weather, &c.

Cannot you get some of our Harford county cattle-feeders to try some experiments on their fat cattle? For one who is convenient to scales it would not be much trouble and would no doubt throw some new light on the subject.

Had a few bags of cobs ground, but my cattle not being used to that kind of meal do not take to it kindly. Some eat it freely, and can see no bad result from it alone.

I am entirely satisfied that crushed corn is worth more to feed to cattle than the same corn if shelled and ground would be. Hope to hear more on the above subject from those better qualified to give an opinion. THOS. J. LEA.

Maple Grove Stock Farm,
Montgomery Co., Md.

The Maryland State Dairymen's Association.

The meeting of the dairy farmers, dealers and others interested in dairy products, which adjourned from March 29th, was held April 15 in Mechanics' Hall, on W. Fayette street,—the room at Miller's Hotel, where the previous meeting was held, proving too small for the large number in attendance.

The committee appointed to frame a constitution made its report, and the instrument prepared was, after some amendments, adopted. The officers provided for by it were then elected, as follows:

President, Charles B. Roberts, of Carroll; *Vice-Presidents*, A. Bowie Davis, of Montgomery; Lewis A. J. Lamott, of Carroll; Chas. W. Michael, of Harford; *Treasurer*, C. Lyon

Rogers, of Baltimore; *Secretary*, Wm. B. Sands, editor of the *American Farmer*; *Executive Board*, Thos. J. Betts, of Carroll, from the B. & O. R. R.; C. Cole, of Harford, from the Phila., W. & B. R. R.; L. A. J. Lamott, of Carroll, from the Western Md. R. R.; Thos. Elliott, of Baltimore, from the N. C. R. W.; Dr. Chas. W. Chancellor, Pres. of the State Board of Health, from the State at large; John D. Lisle and Chas. H. Lohmann, from the commercial dairies.

A motion of Mr. C. W. Michael was adopted, calling upon the executive board to present the grievances of milk-producers to the City Council of Baltimore and ask legislation for their relief; and one also of Mr. L. H. Cole, that the board be requested to invite some gentlemen, prominent in their profession, and who are known to have given considerable attention to the subject of milk, its impurities and adulterations, to deliver addresses or read papers at the next meeting of the association, which shall be open to the public, and of which notice shall be given in the papers of the day.

Though most of the time of the meeting was taken up in the discussion of the constitution of the new society and in the election of officers, there were a number of short addresses made on various topics, of which we regret we can give but a brief synopsis.

An incident which created much interest was the reading of a letter addressed to an extensive dealer present, (the signature being withheld,) the writer of which proposed to sell information as to his process for "increasing, and improving the quality of, milk."

Dr. C. A. Leas made some remarks on the depletion rather than adulterations which milk suffered at the hands of unscrupulous dealers. He said the additions made to it were not poisonous of themselves, but the compound resulting from their use was none the less pernicious, inasmuch as they failed to supply the materials needed to give milk its value as food, and especially for children.

Mr. Betts urged that the organization be made general in its character. The depressed condition of agriculture in our State, and the necessity of concert of action for its advancement, should induce such action as will bring to our aid all the talent and ability our State affords. He hoped the delegates present would rise above considerations of apparent individual advantage and organize the association upon a basis that will invite coöperation from all who have the interest of agriculture at heart.

Whilst other States have experiment stations and agricultural colleges disseminating scientific knowledge, Maryland is literally doing nothing, and it is humiliating to see how backward we are. It is a question of grave doubt if, under the present system of tillage, we can longer successfully compete with the virgin lands of the West in the production of grain, especially in connection with cheap transportation, likely to become cheaper in future; but,

on the other hand, the demand for good, pure and fresh dairy products by all educated communities invites us to a field in which we should fear no rival. With facilities of transportation by rail and water unsurpassed, a commercial and political metropolis within our limits, a happy climatic situation that exempts from the extremes of North or South, our State ought at least to be abreast of her sisters in this great interest.

About sixty persons signed their names to the constitution of the new society, and this number it is thought will soon be largely increased.

The Executive Board

of the association met at the office of the *American Farmer* on April 29th.—the president, Hon. Chas. B. Roberts, in the chair, and all the members present save one. It was decided not to be practicable to attempt at present to secure any legislation prohibiting the sale of impure and adulterated milk from the City Council of Baltimore, which is about to adjourn for its summer recess; but to ascertain what measures have been adopted elsewhere for securing the object sought.

The meeting of the association was deferred from May 5th to May 23, and invitations were extended to several gentlemen well-known for their scientific attainments to read papers on subjects connected with milk, its supply to cities, its adulteration, &c. The meeting will be held at noon on the 23d in Central Hall, N. W. corner Baltimore and Holiday streets, Baltimore.

The Dairymen's Association.

Messrs. Editors American Farmer :

In my correspondence with gentlemen in other parts of the State concerning this new association, I had proposed special invitations to gentlemen of prominence, such as physicians, chemists, agriculturists, &c., to prepare papers to be read at our next meeting during intervals of committees reporting, &c.; so that in connection with the direct bearing of such facts adduced already, and much more that will be presented at our next meeting, we would go before the citizens of Baltimore, so to speak, to educate them as to food value of pure milk from properly-fed cows, and to arouse the public to a full realization of the very impure milk which is, to a very great extent, now sold in Baltimore city. In a word, I had hoped at the coming meeting every interest would be so fully met, and that we proposed, backed by such weight of character as would so place us before the community at once and in the future to claim their confidence, and thus secure proper basis for our specialty—fresh milk supplies for cities.

Again, I think we want gentlemen of means, talent, position; (philanthropists, if you please,) to aid in developing and securing advantages to all interests. And by my resolution I aimed to effect their identification with our organization. I cannot see how the the association with us of gentlemen not directly engaged in dairying or even agricultural pursuits, can possibly be of any disadvantage. But I can see how, by their influence, with their talents, money, &c., sup-

porting, aiding, they can effect for us what we cannot without them. And I hope to see at least the prominent citizens of the city and counties enrolled as members, and many of them leading, active workers. I think a number of the gentlemen now with us heartily endorse this view. Quite a number near me endorsed the remark of Mr. A. Bowie Davis at our last meeting, when he said he hoped the doors would be thrown open wide, &c.

If you will refer to history of Dairymen's State Associations, especially of New York and Pennsylvania, you will find that they keep up the local associations of dairymen, farmers' clubs, &c., and the State associations through their executive committees more fully meet the wants in specialties than has been met by associations of specialties. For example: the cities of northern States have from time to time made efforts to remedy evils and better control milk supplies of cities, and ever failed until State associations, with gentlemen such as Gov. Seymour, Prof. J. P. Roberts, Hon. Geo. Geddes, and others, with leading physicians of the cities, as members of State associations, by their investigations, &c., aroused public sentiment, whereupon mass meetings followed, with demands upon City and State authorities for such action as would remedy evils complained of and give to cities pure milk and the honest dairymen fair remuneration. I have before me now reports from different localities where the milk question through State associations of dairymen has been agitated and successfully worked as above alluded to, to the satisfaction of producer and consumer.

Very truly yours,

LEWIS H. COLE.

The Poultry Yard.

Which Breed of Poultry is Best?

Best—best for which purpose, eggs or table qualities? The above question is so often asked me, that I have concluded to answer it, and my answer will be based upon actual personal experience, and my decision rendered in accordance with the same. As the question is generally put, it cannot, as no qualities are specified, be answered at all. As will might one ask, "which is the best breed of cattle?" but before an answer could be given, one would prefer knowing how the question is propounded. If the question is asked, which are the best cows for milk, or best for butter, or best for beef—an intelligent answer can be given; for we are aware no one breed combine all these desired qualities. So it is with poultry—no breed has all the good qualities that are to be found in poultry; but in most cases one desirable quality exists at the expense of another. The best layers, as a general thing, will not sit; then, again, the best table fowls will not lay as many eggs as some others. We have bred nearly all kinds of pure-bred fowls, carefully testing their merits as layers, table fowls, mothers, for hardiness, and general qualities combined. Of the Asiatics, the Light Brahma stands at the head. Why? Because they lay larger eggs, feather quicker than the darks, and, except the Partridge Cochins, we consider their flesh superior to any of the other large breeds.

They are fair winter layers. The Brown Leghorns first, White next, are the *greatest layers*. They are completely feathered at four and five weeks old, and at that age, and at two months, make excellent broilers or fried chickens, and are generally fat if well taken care of. With me they have stood second as winter layers. The Houdan heads the list of *table birds*—more breast meat, tender, juicy and good in flavor. Their eggs are very large, like the Black Spanish. At ten weeks old the chicks are usually as heavy as the large breeds, and, like the Leghorn, the chicks are hardy; do not sit, do not commence to lay as early as some other breeds. Nearly all varieties of games, for a general purpose fowl, are good. In egg-laying they cannot compete with Leghorns. The Hamburgs, all varieties, are good layers. The fowls are small, but are handsome in the extreme. They never sit. My experience has been, that the American Dominiques are the best winter layers—they are excellent mothers. Mr. J. Addison Smith, of Beulah Farm, Howard Co., Md., who recently spent some eighteen months travelling in Europe, visited the Paris and Belgium Gardens of Acclimation, and saw the choice poultry, writes me as follows: "I am convinced beyond all peradventure that the American Dominiques are the best chickens for farmers. They combine every good quality, are good layers, the best of mothers, hardy as hawks, and, like a good Berkshire hog, you can fatten them from the time they are hatched, and on less food than any other breed. The cocks are splendid breeders, take most admirable care of their flocks. They possibly may not lay quite as many eggs as the Leghorn tribe, or make quite as much meat as the Cochins. I have during the past few years tried nearly all breeds, and now I've settled down on a substantial basis, and propose to breed *for profit*—consequently shall confine myself to American Dominiques."

I am glad to give an opinion that coincides with mine from such a good authority.

The Plymouth Rock fowls are becoming quite popular, and they combine many of the qualities of the Dominiques. Although they are a made breed, produced by crossing the Dominique on the Black Java, are now, after years of trial, breeding quite true. They are larger than the Dominique. In plumage the same. As yet their eggs vary in color. They are hardy. Thus it will be seen all the good traits, or perfection, cannot be found in any one breed of fowls.

Brooklandville, Md.

G. O. BROWN.

The Busy May.

The early part of this spring has not been very favorable for early hatching in most localities, which has had some effect on the sales of eggs for hatching, and the bulk of the chicken crop of the country will date its first appearance in life with the month of May, while breeders will be kept lively in supplying the demand for eggs. May-hatched birds, when well cared for and fed properly, are sure to do well, in many cases turning out far better than those hatched out earlier, when they had to contend with the inclemency of the weather, which will be sure

to stunt or retard their growth unless extra care is taken of them in every way. Chicks brought out early in May will be well grown before the severe hot weather of July and August comes along to scald and blister them. The smaller-laying breeds, which feather up so quickly, can be hatched much later than the slow-feathering Brahmas and Cochins, which remain nude so long, awaiting their new suit of feathers. Taken all in all, this month is the very busiest season of the year, and just the month when the breeder lays the foundation for future profit or loss. If the hatching has been done earlier, there are whole hosts of young chickens to care for, which absorbs much time, and if the hatching has mostly been delayed until this month, there are the hens to care for, and preparations to be made for the advent of the young and tender birds.—*Poultry Monthly*.

Poultry Journals.

THE POULTRY MONTHLY, Albany, N. Y., is a new candidate for public favor, the first four numbers of which are at hand, with contents varied, practical, and such as to merit the sudden popularity it has won, with typography which, for elegance and neatness, cannot be excelled.

THE POULTRY WORLD, monthly, and THE AMERICAN POULTRY YARD, weekly, (Hartford, Conn.) are also regularly received. We have also from the publisher, H. H. Stoddard, several handsome poultry chromos, which are unrivalled in their line. The *Poultry Yard* is the only weekly journal of this kind in the United States, and both publications are desirable for all who raise poultry.

Work for the Month—May.

No delays in the routine of the farm are allowable now; to keep up and push forward the work of the season ought to be the motto of all, and additional force employed if necessary to do it.

The Corn Crop.—How important a part of the cultivation of the crop is the preparation of the land, we have dwelt upon before. It is done before planting more expeditiously, economically and effectively than after; and it saves a large amount of work when it can be less readily given. Spare no pains to secure a good tilth, using the harrow and the roller. Plant as soon as may be, and keep the ground mellow from the start, working first with the smoothing harrow or the cultivator,—never permitting the weeds to get ahead. Not only are they and grass destroyed by frequent stirrings of the soil, but the air and moisture have easier entrance to the roots of the plants.

Potatoes.—Though many if not most growers prefer to take the chances for their main crop by planting in June, with a view to escaping the droughts when the tubers are making, some prefer to plant in May, and others divide their plantings. To make a good crop, the land must be in good heart, with considerable vegetable matter present. A good sod, well turned

over, with some well-rotted compost or manure in the drills, succeeds generally in bringing good returns. Thorough pulverization is one secret of success and keeping the ground clear of weeds another. Dusting plaster over the vines is reckoned a great help, and all of the inorganic manures, such as ashes, lime, salt, bone-dust and super-phosphates, are well adapted to the demands of this crop; but rank and crude manure predispose to disease and ill-shaped tubers.

Root Crops.—Every consideration of the comfort, health and profit of your live stock would seem to urge some provision of these crops for their use. As alternative feed in winter nothing can be better, and the immense quantities that can be raised on small areas is another argument in favor of their production. We have heretofore given details as to management, quantity of seed, &c.

Tobacco.—For this month the work upon tobacco is rather routine, and advice for last month comes in for this, save in this month tobacco-beds will want picking, which should be done as soon as the grass is large enough to be caught between the finger and thumb. Don't forget the plaster, nor air-slaked lime for flies. The planter should now make up his mind for quality or quantity—if for the former, then plant close; for the latter, wide.*

Millet and Hungarian.—These are excellent additions to our forage crops, and are grown at very little trouble and expense. All the varieties ought to have a good soil, when they yield abundantly. They may be sown from now on to the 1st of July, a bushel of seed to the acre of either being sufficient. Unless it is desired to save it, the crop should be cut before the seed matures, otherwise the straw is hard and woody.

Fodder Corn.—When this is to be cured it is preferred by many to sow it early, so that the time for curing comes when the suns are hot and the season likely to be dry. That to be fed green may be sown in succession every two weeks. Sow in drills 2½ feet apart, and ten or twelve stalks to the foot. Cut when in full tassel and put in large stacks, or pile thickly against the fences to cure.

Pumpkins.—These may be readily grown in with corn, and are succulent and nutritious, and especially useful for milk cows. Have the hills rich, plant early and have a keen eye for the bugs.

Live Stock.—In the last No. of the *Farmer* we advised the early turning out of cattle, so that they would derive the most advantage from the grass. We will now throw out a few hints about providing for the calves that we may expect to have in the spring of 1880—that is, about the kind of a sire they are to have.

Being so very differently situated as to markets, quality of land, &c., it is impossible to lay down any fixed rules to govern so large a class

as our numerous readers. But when we think that the very shortest time from the present spring till we can have even a heifer to give milk as a two-year old, or a similar steer, will require nearly three years, then how important that we should make a wise selection of a sire to serve our cows the present season, so that after waiting so long a time for the result it should be worth the time; three years to look back seems short, yet to look ahead it seems long indeed, and we all wish to be well paid for our time and money. Many will say anything will do; I do not know that I will raise any of my calves, and if they are to be sold to a butcher they will not bring any more sired by a herd-book bull than they would if their sire was the poorest scrub. Such is very far from the fact, as many who have tried and can, if they would, give figures that show how well the small additional cost has paid them. If you do not feel equal to the expense of getting a thoroughbred bull for your own use alone, a good way is for three or four neighbors living convenient to join in the first cost, and all have equal benefit from his use. Perhaps just as good or a better plan would be for one to own and all the others who use to pay for such, and just as we would expect to do for the use of a stallion. By either plan the cost of each calf will not be near as much as its enhanced value from the good blood in its veins. During the present period of low prices fat cattle and all dairy products have been much less affected by low prices than most other farm products, showing the importance to us all to try and improve the product so as to be able to compete with our Western neighbors who have their rich lands. It would not do for any one to lay down arbitrary rules as to the best breed for others to use, for we cannot know the circumstances to govern each case; but one point is the same for all, that is, after deciding on the breed that we think will suit us best, buy nothing but a pure-bred bull to use for a sire for your calves, if you expect your calves to be better than the cows we have.

The Orchard and Fruit Garden.

This month unfolds in a great measure the prospects of the fruit harvest. The danger of late frosts, so often destructive to fruit in the expanded bloom, to a great extent is now past; and where the damages in this respect are still unnoticeable, growers dare breathe with more freedom; especially is this so with peaches, in which crop the greatest fruit interests of Maryland centre. While this is the case, it may be gratifying to peach-growers to know that from data bearing upon this subject, the fact is revealed that there is a very perceptible decrease in the acreage of this fruit as compared with the immense crop of 1875; many entire orchards in different counties of the Eastern Shore have since then been "grubbed up," and the land devoted to wheat and corn; planting of course still continues, but with more moderation and much greater caution as to varieties of un-

*CORRECTION.—In the note on tobacco-beds in our March No., (page 98,) where the manuscript read "sow one tablespoonful of seed to every square of ten yards," this compositor made it "square inch." Of course readers of any intelligence would perceive the mistake. We will here say that these notes are prepared by one of the most intelligent and successful planters of Maryland, and, as other portions of the contents of this journal, give the results of practical experience.—*Eds. A. F.*

doubted excellence. The finely-written catalogue descriptions as annually disseminated by enterprising nurserymen no longer suffice as a guide to the planter. The returns by commission merchants are now noted as safer criterions to lead the way to liberal reimbursement for capital and labor invested. The old custom for farmers to visit the nurserymen and get the best (?) advice as to profitable varieties to plant is no longer in vogue. On the other hand the farmer who intends to devote a portion of his land to this fruit has learned to be wide-awake in shipping season, and when the time for planting arrives he knows exactly what he wants, and dictates for himself. This is a step in the right direction,—for he who informs himself by such method, what kinds are best for his purposes, has undoubtedly better chances for success than he who plants at sundown. Starting right is of no more importance in the planting of peach orchards than with the apple, pear, and all other fruits; the larger number of apple orchards now at a bearing age in Southern Maryland reveal this truth to their owners annually. We have in our mind while we write the fact of a little town in one of the southern counties of our State, with a population of not over six hundred inhabitants, that consumed the past winter over one hundred barrels of apples that were grown in other States; we cite this fact only to show that there has been something very wrong in the selection of varieties when orchards were planted in that section. This consumption of Northern and Western-grown apples in the greater portion of our State during the winter is a practice so old, that many farmers, otherwise intelligent, accept the belief that by the influence of climate they are deprived of the luxury of winter apples of their own growing. This is plainly an erroneous notion, supported only by injudicious action in the selection of the right varieties to plant. Keep on planting Baldwin, Northern Spy, Spitzenburg, and other kinds of Northern origin, and undoubtedly you have to continue to buy your winter supply of apples from Northern and Western markets. Where, however, this practice proves too burdensome, plant Limbertwig, Shockley, Nickajack, Mitchell, Rawle's Janet, and other good winter varieties of Southern origin, and you may have apples to sell instead of 'to purchase.' We find our pen has wandered a little from the path marked out for it when we began "suggestions for the orchard and fruit garden;" but if our hints given in the April *American Farmer* in this department are followed, there is not such strong demands upon the attention of fruit-growers this month as will soon follow. During this temporary cessation provision can be made to meet successfully the throng and pressure upon time and help in the gathering and shipping season; choice can now be made as to style and capacity of crates and baskets for the larger fruits; while for the small fruits, if a stock of baskets and crates are on hand from last season's operations, they should be overhauled and carefully cleaned up and put in the best possible condition as to appearances,—so that the fruit, when properly gathered and sorted, will show to no disadvantage; and thus avoid sales a few cents lower per quart than an article which in

fact is no better, but has the help of good-looking baskets. It is no less important to attend well to the minor details in gathering and shipping than in the growing of fruit.

In the Fruit garden, where the soil *should* be rich, weeds will come on rapidly, and if permitted to get a good start, much additional labor will be required to put everything in as good condition as is requisite; weeds are not hard to keep in check if taken at the right time, which is now pretty generally conceded to be before or *immediately* after they are through the ground. It is light and pleasant work to subdue them then, but not so much so after they get three or four inches high.

Horticulture.

Maryland Horticultural Society— April Exhibition.

This show, though not one of the largest, is noticeable in the history of the society for bringing out some of the finest plants and flowers ever exhibited in Baltimore. The evening set for the exhibition was the 17th, but a severe storm prevailed, preventing some deposits and almost entirely any attendance of visitors, and the show was adjourned to the following day, which, raw and blustering, was not much more auspicious. The attendance was fair, but not large.

W. H. Perot's table was conspicuously handsome,—his collection of Orchids attracting great attention, one plant especially, *Cattleya Warnerii*, having five large blooms, each six inches in diameter, of the loveliest shade of crimson and rose. Besides these were many handsome greenhouse and stove plants; some specimen Roses, remarkably well grown and bloomed; Azaleas of great beauty; and some of the Japanese Maples, noticeable for their lacinated and delicate foliage.

James Pentland, Wm. Fraser (Superintendent of Patterson Park) and Robt. J. Halliday, each had effective tables, with mixed collections; the first-named showing some small plants in bloom of his beautiful seedling *Camellia* Robt. E. Lee. R. W. L. Rasin and Ernest Hoen had attractive tables,—the former showing some finely-developed Ferns; the latter *Primulas*, *Auriculas* and a plant of *Amorphophallus Riviere* in bloom, which reached its highest perfection only towards the close of the second evening of the show.

S. Feast & Sons had a table of Lilies, Azalea Mollis and foliage plants; and Cromwell & Congdon had a large assortment of *Verbenas*, *Bedding Plants*, *Roses*, &c.

Archibald Brackenridge entered a fine lot of the new *Coleus* of 1879, and had displayed on the floor a neatly-arranged model of a carpet bed, some 12 or 14 feet square, made up of small specimens of the popular foliage plants, which gained much commendation.

Cut flowers were lacking, the demand at Easter having drawn heavily upon producers,

and designs were not numerous. R. W. L. Rasin had a neat stand, and John Cook and S. Feast & Sons designs of handsome flowers, but rather stiffer than their usual style. Fruits and vegetables were deficient.

The proposed discussion on bedding plants did not take place, several gentlemen who were expected to participate not being present.

The prizes were awarded as follows: Certificates of Merit were awarded to both Patterson Park and Wm. H. Perot for 6 distinct species of stove or greenhouse plants in bloom, the collections being of equal merit. Best 12 Azalea Indica, \$3, best 6 Hybrid perpetual Roses, \$3, best 12 variegated Geraniums, \$2, and best collection of Orchids, \$3, W. H. Perot; best 6 varieties Ferns, \$2, R. W. L. Rasin; best 12 Verbenas in pots, \$1, and best model of ribbon gardening, \$3, A. Brackenridge; best table design, \$3, best basket cut flowers, \$2, and 24 cut pansies, \$1, S. Feast & Sons; best 12 cut Tulips, \$1, Cromwell & Congdon; best 6 heads Lettuce, \$1, Ernest Hoen. *Amateur*.—Best hanging basket, \$1, Willie Feast.

Reviving Frozen Plants.

Messrs. Editors American Farmer:

Having had much experience with plants being frozen, and in the course of my experience have lost many by accident or otherwise, I can sympathize with others sharing a similar fate. The past winter has proved severe, the cold penetrating, and with those not having a proper place to keep their plants has caused great destruction, especially to private individuals; with all the care bestowed, covering up with some material to exclude the cold, proved generally unavailing. At the same time if they had known how to take out the frost many plants might have been saved. These losses deter many from keeping up a collection and the purchasing of plants, the prices of which are now very low. It has often entered my mind that an article on this subject might be of some use and interesting,—as it is not theoretical, but from practical observation.

After a summer's toil and labor in caring for a collection of plants, which are put away for the winter in fine condition and give promise of fine bloom of flower, which is cheering in the winter season, and after retiring to rest expecting to see something open in the morning, which have been nurtured for years, cut down with the frost, is not very gratifying. Immediate action is necessary, and the first thing is to get up the temperature as quick as possible with the flue or pipes; at the same time procure an iron pot or boiler and put some hot coals in the bottom; split some dry wood or shingles and make a fire inside of the house, but be careful of creating too much smoke; this will rarify the air and stop the freezing, at the same time will give a slight shade to the plants, which is a benefit to them in that state, and if kept shady for a few days will be of service to them. By this time the heat will have risen; then throw water on the flue or pipes to cause steam, which will soon fill the house. Keep it full in this way until the frost is entirely out of both soil and foliage, and

then give a slight syringing with cold water; it will harden the foliage and cause circulation to take place. It may be observed that when frost is in the foliage it assumes a dark color, but when thawed it is as usual when circulation takes place. Never throw cold water on plants until there is sufficient heat to keep from freezing, which is frequently done, congealing both on the foliage and pot. This destroys many plants which might have been saved. Yet by any process we cannot expect all to be saved.

When plants have been badly frozen they should be repotted in smaller-sized pots, shaking the old soil off; give fresh soil with good drainage and cut down if required; they will make better specimen plants. It is generally thought that tropical plants will bear but a slight frost, but I have found different, as Poinsettia, Francisceas, Allamands, Cereus, Salvias and others have been little injured when some of the hard-wooded plants, as Acacias, Eugénias, Myrtles, Jasmynes and many more have been entirely ruined. Such are the nature of plants in many cases that we are entirely at a loss to explain this. Bulbous greenhouse plants, as Amaryllis, Hamanthus, Crinum and such, seldom recover if severely frosted. Camellias are very hardy plants, and after being frozen solid I have had them make three growths the following summer, measuring three feet ten inches, and if treated when in flower as stated, though much frozen, few buds will drop, if sufficient steam is kept up, entirely drawing out the frost.

This treatment as stated may meet the views of some and be appreciated, and others may fancy they have a superior method; but I will venture to say by this process more plants and more foliage will be retained and plants in general will sooner recover than by any other means, as I have proved by ocular demonstration.

JOHN FEAST, SR.

295 Lexington St., Baltimore, Md.

Bedding Plants.

Messrs. Editors American Farmer:

Your correspondent "Horticola" in a previous No. *American Farmer* speaks of bedding out Crotons and asks for the experience of others with these subjects. There is no trouble about putting out Crotons; we prefer, however, to mass them with Dracenas, &c., and plunge the pots, being careful to give the plants sufficient room for both root and head to extend. The only drawback—or we should rather say the principal objection—to using such subjects in general flower-gardening is their extreme inadaptability to the purpose in view. A very good purpose to which this class of plants may be put is to fill a fancy bed—such, for instance, as where two walks converge, near to a summer-house, or a much-frequented seat or bower—apart somewhat from the flower-garden proper. We have always advocated the more frequent use of such beds where the size of the place would warrant it, not, however, of such things as Crotons, &c., especially; for to have and to keep a sufficient number of these plants of a size and in condition to make a creditable appearance would be an item of expense not many

readers of your pages would be desirous to incur. It matters very little what our opinion may be—as an individual—in respect to the modern system of bedding out, or to the kinds of plants used. We might, however, find it difficult indeed to discard *Coleus*, *Alternanthera*, *Centaurea* and *Achyranthus* for the purpose. Nor can we eliminate either without creating a void not easily filled. "Horticola" complains of monotony, and with some justice perhaps; but may not that be remedied without a change of base? How many candidates have appeared for the position held by *Centaurea Gymnocarpa*, and yet that variety holds its own. That it is not quite perfect we admit, and we believe also that there are things in this mundane sphere, other than our popular bedding plants, in the same boat.

Of course our duty is to improve them; but in some instances it were perhaps better to retain the ills we have than rush after those we know not of. There are some very obvious reasons why the varieties of bedding plants mentioned should remain popular favorites: they may be bought for a small sum, they grow luxuriantly in our summer climate, and they are beautiful. Some of the new *Coleus*, as *Kentish Fire*, &c., are remarkably handsome.

Many errors occur in planting, not only in bedding, but also in that of a more permanent character,—not through lack of taste, nor from carelessness, but for want of knowledge. The object and the aim of horticultural societies is to diffuse that knowledge. We may revert to this subject in a future number of the *Farmer*.

N. F. F.

Window Gardening.

BY JAMES PENTLAND.

Read before the Maryland Horticultural Society at its March meeting.

What question is more frequently asked a gardener than the simple one: "How can I keep my plants in winter?" And the answer in most cases is very unsatisfactory to the enquirer, and yet I think any intelligent gardener might be able to answer the same quite satisfactorily, did they but consider that it is to their interest to do so, for I hold the firm conviction that the more successful amateurs are in growing plants the more of them they will be induced to purchase. Now, I contend that it is one of the most pleasant occupations that can employ the time of a lady who has a spare half-hour every morning to look after such pets as flowers, (for to an interested amateur they certainly are as much pets as birds, dogs or cats,) and the principal requirement is to obtain such plants as will succeed best in a room or window, and surely the list is large enough to select from,—a list which I will give ere I close.

Now, the first question is: how can I best grow them in a window. In the first place I would recommend a box to be made, say about the size of the window to be used, and place it upon a stand or secure it to the window-frame; make the box as light as possible, about 18

inches or two feet wide, and about 3 inches in depth, (which is quite sufficient;) line the same with zinc or tin, (if tin it will have to be painted to keep from rusting.) This will make a sufficiently tight box to catch all the water that may drop from the pots when watering the plants; into this box you may put about one inch of clean sand, so that you will constantly have it moist under the plants, which will conduce to their health, particularly when placed in the dry atmosphere of a room heated by our modern heaters; thus you have the foundation or floor for your miniature plant-house.

I would place inside of this box say three shelves or steps, one above the other, on which to place the plants, making it as steep as possible, in order to bring the plants as near the light as may be; and, by the way, a window should be selected that will command all the sun possible; one facing the south, if to be had, all the better.

Now the next most important thing to be done is to secure the proper plants; and in placing your plants on the stage, put the lowest size on the first shelf, which will be scarcely an inch above the box; the next size on the second shelf and the tallest on the top, taking care not to crowd them, letting them barely touch each other, in order that no gap may appear. Then as to how your plants must be put in these pots properly, in order that you may have the greatest satisfaction, for upon this will depend in a great measure any success at all. Most persons think any common garden soil will answer in which to raise plants that have grown in a garden. There never was a greater mistake, and if you expect any success by planting in such soil you will certainly be doomed to disappointment, for you must bear in mind that you are growing plants artificially, and that all kinds of plants do not grow in the same kind of soil. Some like a rich, heavy clay soil; others a very light one, with much sand in it, so that their fine, delicate roots may be able to find their way through it; in fine, a soil that would make one variety of plants flourish and grow luxuriantly would be poison to others of a different nature. For instance, the soil that would make a rose grow most luxuriantly would destroy a plant of azalea or its kindred.

Another most important point to attend to is to see that your pots are properly drained in order that the superabundant water may be carried off through the drainage, for I believe more plants are killed by the lack of proper drainage than by any other means, and a plant will suffer more by being often over-watered than it will by being often neglected for want of it; for water in most cases will revive the plant, but let the plant be much over-watered and the earth becoming soured it will take a considerable drying to restore it to health again, if, indeed, at all; for if the young rootlets or feeders are destroyed, unless there is sufficient vitality left in the plant to make new feeders, the plant will die. Plants are like people: when a man's stomach gets out of order he is apt to get sick unless he refrains from that which disordered it, or takes something to help; he, too, may probably die. So, too, man never

drinks until he feels thirsty (unless it be whiskey, brandy or other stimulants; these he mostly drinks when he is not dry.)

So with plants: don't water them until you find them dry, which you can very soon ascertain by feeling the surface of the soil; and just here let me say that a most important point is, when your plant wants watering, do it most effectually—fill the pot full until you are sure the water has gone to the bottom of the pot, and not have the plants, as I have often seen them, about two inches of the top surface moist and the remainder of the soil like powder, so very dry.

Now, what I would recommend all persons to do who have plants they wish to grow in a window, would be, to go to an intelligent gardener and either get him to put the plants you wish to grow in proper soil and proper-sized pots, with suitable drains, and, if need be, buy from him such plants as he knows will do well under the kind of cultivation they are to have, for there are plenty of such gardeners in our city, although, I am sorry to say, that all are not such who call themselves gardeners. See to it that you get plants suitable for growing in your windows and not take anything that, at the time, may please your fancy, unless it be suitable for the purpose for which you desire it.

That plants can be most successfully grown in the windows of your dwellings I had late ocular demonstration of when driving through the streets of our city with Mr. Wm. Fraser, the intelligent superintendent of the Patterson Park. We were surprised and much pleased to notice so many of the windows as we passed along through the southwestern part filled with plants in such a healthy and thriving condition, many of them in beautiful bloom, and we were convinced by the appearance of the plants that they were not such as had been recently purchased from a greenhouse; and furthermore we observed that the plants were not growing in the windows of the wealthy, where fine lace curtains are about the only adornments, but they were in the dwellings of the poorer class, showing that a refined taste and love of the beautiful dwelt there. Could we but have looked into those front rooms, I will guarantee that if you found plainness you would have also found neatness and cleanliness in that abode. And what pleased us much was the fact of seeing so many of those windows thus adorned at one place in particular. We were so struck with the beauty of the plants in the window that we remarked what a pity that those persons could not be induced to display these productions at our exhibitions, so that others might learn a lesson from their experience.

I know a lady of this city (and she may be now present) who would put some of our gardeners to the blush to see some of the nice plants that she grows in a bay-window, and I have no doubt but she has at this time some of as pretty Azaleas in bloom as are here. She has told me that she has bloomed some of the roses that I have potted for her as fine as any I have had of the same variety, and I don't doubt it in the least, and surely what others have done and

are doing, any lady or gentleman could do. Who took away the prizes from this place for the last two years for the best Hyacinths? (and, by the way, they were as fine as any you will ever see in this country.) It was an amateur, and one who I believe grows his plants in a window; the same gentleman has exhibited many other specimens of his skill in cultivating plants in this way. Did any of you ever travel through England and Scotland, and did you not notice in nearly all of the windows of the cottages of the poor and lowly, (so poor, indeed, that they could not afford to buy pots to plant their pets in, using broken teapots, or any vessel they could find to grow them in,) growing and blooming most luxuriantly, and if you read the magazines devoted to horticulture you will notice what great competition exists among the cottagers, to see who will take the prizes offered by the various horticultural societies for the cottagers' premiums given by these societies. Surely it is a most noble emulation, and well does it deserve to be encouraged, and I only wish we could see more of the same kind at our monthly and annual displays. I see that in Philadelphia the ladies are more alive to this matter than those of Baltimore; I saw at the September exhibition of the Horticultural Society of that city a very large collection of plants exhibited by ladies, perhaps a dozen or more different collections; and why will not the ladies here take the same interest and show us their skill in the cultivation of flowers? It can be done, and I hope to see the day ere long when in front of every lace curtain we will find some of nature's adornments, so that those passing along the street may have something cheerful and pleasing to the eye to look upon. Only make it fashionable, and you will see every lady in the city following the example set.

I have noticed on Charles street (near Chase, I think,) one enthusiastic lady has had a glass case made to fit her window, which projects a foot or more beyond the wall, and she has her plants in it, (a miniature greenhouse.) Often as I pass her house I look up to those windows to see her plants, and from my heart have often wished her success, for I think she deserves it; I don't know who she is or whether I ever sold her a plant, but this I do know: she is an enthusiast, and I am convinced it must be a lady, for a man would hardly take upon himself so much trouble.

I will close my remarks by giving a list of such plants as I am sure, with a little care, will succeed well, and grow in any window that has half-a-day's sun shining through it. I presume that you desire plants for winter and early spring bloom, for, of course, you have your gardens and yards for your summer growing of flowers.

First upon the list I would recommend a few Ferns, with their graceful fronds of various colors and shades, and forms that look so charming among a miscellaneous collection of plants, then a Calla Lilly or two, with its pure white flower so easily cultivated; two or three Zonale Geraniums, one of which to be a variegated variety, the leaves of which are equal to a flower at any time; let those be good blooming sorts, and of a dwarf habit. Then a few of the Chinese Prim-

roses of various colors, which are indispensable; a plant of *Mahernia Odorata*, (or Honey Bell) with its delicious fragrance; *Lybonia floribunda*, a much-neglected fine winter-blooming plant that lasts for a long time when in bloom, and easily grown; one *Bouvardia* or two, and for making the other plants and the window look gay and beautiful you must have a *Dracena*, with its bright crimson leaves.

This will keep the window beautiful until some of the other plants just mentioned begin to bloom.—*Imatophyllum Miniata*, (or *Clivia Nobilis*), a beautiful lily-like flower, of a charming orange and lemon color, blooming in large clusters and continuing a long time in bloom; a *Cyclamen* or two will also do well and answer for the first shelf between the *Primroses*. Then there are the *Begonias*, many of which bloom all the winter, the foliage of many also being exceedingly pretty; *Abutilons* *Boule de Nieve* and *Darwinii*, two varieties that are nearly always in bloom—one a pure white, the other orange scarlet. Another ornamental foliage plant, *Anthericum Variegatum*, of a bright, glossy green, margined with white in the way of *Pandanus Veitchii*, is a most graceful plant and well suited for a window in winter. Then there are *Palms* of various kinds that are most graceful and always look well in any place; and for the later blooming, what is more beautiful and showy than a few dwarf *Cinerarias* in their season? or what more easily grown than the *Hyacinths*, with their fragrant bells of all shades of color? With them you may have the gay *Tulips*, quite as easily grown in pots. Then come the *Azaleas* and *Camellias*; these two latter should be kept where it is rather cool, and should never be allowed to become dry at their roots or to remain in a very dry atmosphere, as their buds are apt to drop under such circumstances; but if kept where there is no fire and no frost they will bloom in their season, and can then be brought to the windows when in bloom, and other plants can be removed to make room for them; and if you have a shelf or two in your rooms or hall that you wish to put a plant upon, that will stand rough treatment, then there are nothing handsomer than the thick leathery-leaved *Ficus Elastica*, or the beautiful *Latania Borbonica*, or *Fan Palm*, both of which do well even under most cruel treatment. To finish your window and make it look like a picture frame, what is more beautiful than the *Smilax* or the hardy *Ivy*, grown in festoons around its sides? these will do well and look beautiful all the time.

There are very many other plants that I might name that would also succeed well for a window; but surely I have now enumerated quite enough to satisfy any reasonable person, and if they will but obtain any, or all if they so desire, and give them reasonable care, I will guarantee their windows will look charming and give endless pleasure to any one fond of plants and their cultivation.

In conclusion I would recommend every one who desires to grow plants in their windows, and who may be at a loss to know how to do certain kinds of work at the proper time, to subscribe to the *American Farmer*, a magazine

equally suited to the horticulturist or farmer, which contains so much varied information, and also a page or more of matter each month which is just suited to give directions to every one desirous of growing plants, either in a window or greenhouse, or how to put away plants that you wish to keep dormant all the winter, so that they can be planted in your gardens in the spring, and which is written by one of the ablest horticulturists in the country and known to you all—Mr. W. D. Brackenridge.

Greenhouse for May.

Shrubby, half-hardy plants like *Acacias*, *Oleanders*, *Oranges*, *Lemons*, *Pittospermums*, may be, and are the better for being, removed early out of doors, but should be given a sheltered place, where the wind will not have too clear a sweep over them. This will give more space inside for summer-flowering species, such as *Fuchsias*, *Begonias*, *Achimenes*, the *Gesneraceous* family and others; all of such should be shifted into suitable pots and trained into symmetrical shape. Cacti, of the *Epiphyllum* section, should have abundance of light and water as they begin to show flower. *Camellias*, which are making growth, should have partial shade and receive abundance of water, both at the roots and by syringing the foliage. *Azaleas* need the same treatment, except that they should be more fully exposed to the sun.

When the nights become warm, admit ample air from the top by sliding down the sash, but avoid currents, which are injurious to soft-wooded things; and keep the air humid by sprinkling the floor with water.

Lawn and Pleasure Grounds.

The transplanting of evergreens may go on till the first of June, especial care being taken that the roots are not allowed for a moment to get dry. Have the holes dug wide enough to spread out the roots. Deciduous trees that have been lifted and heeled in may also still be planted, and a great help and protection to them will be a heavy mulch, which will prevent rapid evaporation.

Herbaceous perennial plants may still be divided and replanted, and hardy plants, wintered over, may be set out. Do not hurry out from the houses and frames tender things, until the ground is well-warmed.

Keep the walks clean, and roll them as well as the grass. Pare grass edgings and trim those of box.

Vegetable Garden for May.

The 10th of May is an important date in gardening in this latitude. All danger of frost is past, and seeds and plants of almost any kind may safely be trusted in the open ground. Tomatoes should be transplanted, and the main crop of *Trophy* or other solid sort sown in a cold frame to be set out about the end of June. Peppers should also be sown in a frame. Mr. Massey's directions about shading flower-seeds are equally applicable to vegetables sown in frames.

Shade at least from the mid-day sun until the plants are above ground, when light and air must be given. Set out egg-plants, and make the first sowing of okra, the *dwarf* variety, if any such there be. My "dwarf" okra, the seed of which was carefully saved from what appeared to be the genuine article, grew 7 feet high last year. Lima beans should be planted. "Dreer's improved" rather disappointed me, but I mean to give it another trial. If time will permit the first crop of melons and cucumbers should be sown under glass on small squares of sod and transplanted to the open garden about the middle of the month, at which time the succession crop should be sown. The first sowing of bush squash should now be made. From the 1st to the 10th is an excellent time to sow cabbage, cauliflower and broccoli for fall and winter use. Flat Dutch, Drumhead, Savoy and Bergen Drumhead are reliable sorts of cabbage, but many others are equally so. Towards the end of the month we may expect the potato beetle. It is labor lost to use a cheap quality of Paris green, as I found to my cost last season. So soon as I got the right kind I had no further trouble. Mix in plaster and sow it by hand.

MODEL SEEDSMEN.—There may be model seedsmen in Baltimore, but I have not found them out, although I have tried several. I get the bulk of my seed from a distance, and it is a real pleasure to know that the articles selected from the catalogue will come to hand precisely as ordered, without any attempt at substituting. No seedsman has a right to catalogue varieties that he cannot furnish, and most people would prefer to select from a small list of seeds known to be kept in stock than from a large but doubtful display of printer's ink. I must add that the seeds furnished I have always found to be fresh and doubtless genuine; perhaps, too, of better varieties than those ordered, but that's not what's the matter. "My man Ned," said a lady to me, is of such a perverse disposition that if I send him to the next room for a table he will ask me the next minute, "won't a chair do as well, ma'am?" Perhaps it will and perhaps it will not.

Succession crops of peas, beans, corn, &c., will go in this month, but it is impossible to give any precise directions concerning them. The previous sowing should at least be well above ground before sowing the next. Seed-beds of celery, onions, leeks, thyme, sage, asparagus, &c., should be kept if possible without a weed; but keeping down weeds everywhere is one of our hardest tasks in the month of May. JOHN WATSON.

Baltimore Co., Md.

Baltimore Co. Dairymen.

The dairy farmers of the vicinity of Gardenville met on April 23d and resolved to form a local society and to cooperate with the State association to secure legislation for the prohibition of the sale of "doctored" milk. The dairy interest is much hurt by manufactured and adulterated milk sold to the people of Baltimore.

THE MAY EXHIBITION and meeting of the Maryland Horticultural Society will be held on the 8th inst., 7½ p. m., at Academy of Music, Balto.

The Grange.

Representation of Agriculture in Legislative Bodies.

At the meeting of Brighton Grange, No. 60, Montgomery Co., March 6, the following report was read and ordered to be forwarded for publication to the *American Farmer*:

Your committee appointed at our last meeting to report on certain resolutions, offer the following, to wit:

The resolutions read as follows:

Whereas, It is important that farmers should be properly represented in all bodies which deliberate upon their interests;

Resolved, That this grange appoint a committee to inquire—first, how many of the population of the United States are engaged in agriculture?

2d. What is the value of the proceeds of agriculture?

3d. What proportion of representation are we entitled to?

4th. By what means can any inequality be regulated?

We answer to the first question: There are about fifteen millions of the male population of the United States engaged in all occupations; and seven millions six hundred thousand of these are engaged in agriculture—more than half.

Answer to the second question: We have not sufficient data to make as full and complete an answer to this question as we would like, but sufficient for our present purpose.

The value of our farm products in cereals, cotton, potatoes, hay, fruit, dairy, farm animals, is \$3,917,944,478,—exclusive of poultry, rice, wool, &c., &c. We will bring to your view the overpowering interest of the farmer's labor by showing you the total value of our exports in 1878 from all sources; this was \$695,749,930; our exports from agriculture alone were \$536,038,951, leaving the sum of \$159,710,979 for all other interests, while the amount of agricultural exports is more than three times as much; thus bringing this great amount of wealth and prosperity to our whole country. Let us bring this great preponderance of wealth and power to our aid.

The property in the United States, personal and real, is \$29,822,535,140.

The value of farms, farm animals and implements, is \$11,124,959,037; to which add the value of agricultural products as above \$3,917,944,478; make \$15,042,903,515. Thus it will be seen the farmers hold largely more than one-half the property of our country, and contribute more than three times as much to its wealth and prosperity as all other occupations put together; and to represent this vast interest and help control and protect it in our National Legislature, we have three votes. Let us hang our heads in shame for the past!—but awake to our power in the future. For this great interest our Congress appropriates \$188,000 for the Agricultural Department; while there is but one other department for which the appropriations do not run into millions.

In answer to the third question we will say: Inasmuch as more than half of the male business

population are engaged in agriculture, and the farmers hold more than half the property in the United States, and add more than three times as much to the wealth of the nation as all other occupations put together, we think no good Patron of Husbandry need have any conscientious scruples if one-half of our legislators, National and State, should be Patrons of Husbandry.

We will here express our hope that the day will come when farmers will be justly represented in our legislative bodies, and their interests properly regarded, and have a just share of the privileges and benefits of a government that is by the people, from the people, and for the people. It is our belief that this would be the case now if the agricultural community were up to the plane of intelligence and virtue that they should be; then, instead of our representative bodies being a burden and a nuisance to the body politic, as the most of them now are, we would be proud of them for their justice, wisdom and love of virtue, as were our forefathers who founded our republic.

If we had our share of representation, we would have governmental appropriations suitable for so overwhelming an interest. There is no civilized government that does so little to cherish its agriculture as the United States. The French appropriate for agriculture and commerce \$20,534,410; Austria and Hungary for agriculture \$5,495,125; Prussia, \$2,612,340. We could name more, but this is sufficient.

The profits in farming are always slow and small; and instead of cherishing the farmer, it would seem that special care is taken to oppress him.

The duties he pays on indispensable articles in his business average over 40 per cent., while some of his toil is entirely unprotected—the small item of eggs for instance. We import more than one million of dollars of eggs free of duty; these come in competition with our labor.

We will now consider the fourth question, viz: "By what means can any inequality be regulated?"

The means are simple and within our grasp—all we need is the ability to see the means, and will and skill to use them; it is simply by proper voting.

Plain and simple as the remedy is, the difficulty is to get the vote properly directed to one point—to bring the mental powers of the farmers to concentrate on their true and best worldly interests.

To do this, the farmers must become better and more generally educated. We must have a proper system of public schools, so that every competent child can receive a thorough English education. We will even press our point so far as to have compulsory education. We must cultivate largely a taste for profitable, substantial, useful reading; also rational and improving social enjoyments. Then all our granges will have good libraries, which will be well read, and useful knowledge disseminated therefrom throughout our order. We will soon realize that knowledge is power, and that the proper exercise of power is wisdom. We will discuss

in our granges political economy and other kindred and useful subjects bearing upon our interests. We will see what is for the good of one is for the good of all. We will, by continued discussion of questions pertaining to our interests and to the interests of humanity, learn from each other, and thus see where truth and merit lie. We will see the folly of partisan feeling on all questions, so that we will no longer be stupid partisans to elevate into office unprincipled and designing persons to overtax us and make rings to rob our public treasuries; and if any such should perchance show themselves as public servants, we will bring them to speedy, effectual and condign punishment. We will reverse the order of public matters as they prevail to-day. Thus it will not be long ere we want to see nothing but the truth—the whole truth.

Some may say all this is chimerical—the standard is too high. We answer, the standard is not too high.

The difficulty is, the thoughts and intents of the mind are too low. Let us compare our race to-day with what it was one hundred or even fifty years ago, and see what great advance has been made in general and useful knowledge, in morals, in manners, in government, in human rights, in all questions that underlie human happiness and prosperity; and then let us look forward fifty years upon the same scale, and at that point ask: Are these positions chimerical? Is our standard too high? WM. J. SCOFFIELD,

Chairman of Com.

MONTGOMERY CO. GRANGE, No. 7.—Regular quarterly meeting was held at Brighton Grange Hall, April 24,—Worthy Master McDonald in the chair. The question of county taxation came up as referred business, and six of the eight sub-granges composing this body were reported as favorable to the proposed convention of farmers to discuss county expenses; and on motion of Bro. D. Lawrence the following was adopted:

"Whereas, A meeting of the farmers of Montgomery county has been called to consider one of the questions which this grange has been discussing for the past year; and

"Whereas, This grange stands ready to coöperate with any other body having the same object in view whenever it can do so consistently and advantageously—

"Resolved, 1st, That while the grange cannot and will not take any action on any question likely to lead to partisan political agitation, it feels called upon to plainly express its opinions on the subject-matter herein referred to.

"Resolved, 2d, That we are opposed to every kind of official extravagance, excessive salaries and unnecessary offices and officers.

"Resolved, 3d, That we approve of the meeting together of the people to discuss questions affecting their welfare, and extend the hand of greeting to our brother-farmers of the county in the work they have undertaken.

"Resolved, 4th, That this grange does earnestly recommend all P. of H. to attend the proposed convention and by their influence and vote secure such action as will reduce county expenditures and taxes."

The executive committee was instructed to organize a series of public meetings throughout the county during the summer.

The officers for the ensuing year were installed by Sister Anna L. Moore, W. Flora of the National Grange. E. M. L.

SUMMIT GRANGE, No. 164, Baltimore Co.—Mrs. Jennie Fultz very gracefully installed the following officers on 25th February, 1879: Master, Geo. M. Fultz; Overseer, Thos. N. Bull; Lecturer, M. Alban; Steward, John Fultz; Assistant Steward, John E. Bull; Chaplain, V. McCullough; Treasurer, Wm. McCullough; Secretary, Abraham Oelgrath; Gate-Keeper, H. Whipperman; Ceres, Mrs. G. M. Fultz; Pomona, Mrs. Maria Shauk; Flora, Mrs. Ella Boblitz; Lady Assistant Steward, Miss S. McCullough.

The *American Farmer* is recognized as standard authority on matters relating to field, garden and household. May the *Sands* of its editors never run out. Receipts of our grange store at last meeting \$45. O. D. G.

April 15th, 1879.

Home Department.

Summer Boarders.

A Letter to "Ceres."

My Dear Madam:

Several of your intensely interesting papers to the *American Farmer* have of late especially attracted my attention, because touching upon themes in which I am deeply and practically interested: I mean woman's reach after something out of which they may earn something either for their own or the family purse.

Summer boarders seem to be the swiftest and surest method you can suggest, and I think your helpful words must enable many—who are willing to learn—to do well what they undertake. I have for eight years been a busy and I think successful worker in that field, but I feel I have much yet to learn, while perhaps I can scatter some crumbs from my table worthy and nourishing food for others as hungry and helpless as I have felt myself; indeed, I would fain be more generous and share my best loaf if any care to partake; but just now I long so for help that I feel poverty-stricken and too tired to be very helpful. I endorse every word of your article in the April number, especially the closing sentences, yet I feel that I have done, year after year, just what you there deprecate, and which it is now too late to undo. My husband, with a strong love for home, felt unwilling to give up the charms which made it such, and with a spirit of characteristic generosity desired I should invite my boarders to share therein. We began by taking only personal friends to whom we were always glad to show special and delicate attentions, such as we could feel with a comforting sense of independence no money value could be placed upon; but before long found we must take whoever, with due regard to social standing, could pay the best. I can well recall how many bitter, useless tears the first struggle cost me when I realized that the best and dearest

things in me, for which I had made such effort, in which I had so found delight for the benefit of my dear husband's rest and pleasure, and my own triumphs in true wifeliness and womanliness, were in the market and could be had by any one able to pay us a fair price! Things I had given so freely out of a glad, proud heart! It was pride and morbid sentiment, I grant you and others who have no conception of the pain, but it hurt none the less, and found its only cure in doing hosts of little things not bargained for; such as dainty little lunches spread for my boarders' visitors; choice fruit sent to the rooms between meals; extra books and new magazines always within reach, &c., with personal efforts at entertainment: such as reading clubs, at which I would read aloud for two and three hours; dancing and singing parties, at which a member of my family played accompaniments, or dance music by the hour, in addition to much necessary practice, until she was utterly worn-out; excursions and riding parties, in which we took no part, unless it be as guide, lest we crowd our guests, &c. Why make the list longer? It was entered into with enthusiasm; we enjoyed every moment of the service which we meant to be that of love,—for I well remember how, when some one asked how I ever meant to live with all those new people in my home, I took great comfort and pride in saying: "I shall love every one of them, and love makes every labor light!" Alas! for the unreasonableness of youth. I am several years older now, and have learned so much that my head is well-nigh white! Among other things the knowledge has come to me that nature finally avenges herself, and is uncompromising. Three such summers, in which Homeworth was very popular and the family purse duly replenished, my husband perfectly delighted with the life which gave him congenial company always for his evening's chat under the trees or on the piazza, ready servants to do his bidding, music, lights, and his wife and daughters always in their brightest and best whenever he saw them, which was after business hours. We live near the city, and all seemed to go beautifully and well; in short, we were converting strangers into guests, for whom we prepared the entertainment of friends. Many a neighbor looked enviously at us, and several put out 'feelers' for boarders themselves. I was supremely happy, but only at the cost of eternal vigilance; for if any possible fault could be found with servants, cuisine or apartments, I was miserable until righted. Each autumn found me tired unspeakably,—appetite, energy and spirits all gone,—but a rest and change seemed to bring me right again, and we began to think it was only loss of pleasurable excitement. But after a while a deep-seated pain laid a stupefying finger on my brain, and suddenly, when least expected, all strength would forsake me and for many hours all I would ask was to be let alone; too tired to speak, too depressed to think, except in the saddest vein; then a cough set in, and life had become but one long pain. "What does it mean?" I cried piteously to my good doctor, wishing he would give something to forever quit the weary waiting. "You have lived fiercely; you are overtaxed; you must go away where no word from home can reach you; you must for-

get and rest as you never can here." Alas! how it seemed like going to a living death; every machine at Homeworth oiled and swinging into place; every servant at his or her post; guests coming; the summer opening! It was an easy matter to manage without me now; each hand was trained to systematic duty; any ordinary housekeeper could "order the meals and keep peace!" Was that, then, all? Did they make it so easy to go? I covered my poor pale face and yielded, and for long weary weeks I was an exile from my home and all I held dearest on earth, suffering as only One will ever comprehend; and when at last I came home just before the 'summer boarders' left, (having with the "inconsiderateness of woman" insisted upon doing so,) it was to find things greatly changed, I can assure you. Another woman filling my place, who never saw her boarders except at meal times, who ate alone, (I had always felt that was discourteous to my guests and inconsistent with my own self-respect,) and who *went to bed the instant tea was over*, too tired, she said, to talk or be talked to; with two more servants than I had felt necessary, and—but no matter. "How we have missed you!" said one and another. "But you have *lived* without me," I answered. "Yes! and very nicely," was the reply. "Have any left?" I enquired very quietly one evening when sitting alone with my husband. "None!" "Will they come again next summer?" "I think so; the fact is, dear, I think we have done too much; Mrs. — omits a great deal you thought necessary, and I believe they are quite as contented, and the only chance there is of thinning ranks lies in the Smiths offering accommodations for less money."

I did not dare to speak; I was too indignant at the Smiths, and too happy at my husband's final conclusions; as I rose to go in I laid my hand firmly on his and whispered, "I have learned this much, dear husband: nature despises a vacuum, and *biz is biz*." I had learned what seemed more than that; for I had overheard one of my best boarders say: "I like the freedom of her absence; one doesn't forever want to be held to company manners, whether he's tired or cross or what not. That's the rub of boarding with one's friend; if things go wrong one has to swallow it, and you'd better die than find fault." I send you this bit of experience—sorry it is so lengthy—for *any* who may fondly hope to *serve two masters*. If they *must* take boarders, I would say *do so*; it isn't hard work if you go the right way about it, and gives chance for 'growth in grace,' and many gracious services and pleasant *acquaintances*, but be sure you first put your pride into your pocket; save your leisure for those who have the *first claim*; do your duty faithfully, with "promptness in business, serving the Lord;" but if you are tempted to 'burn your candle at both ends' as I did, take, I beg of you, the Pickwickian advice, "don't do it!" There should be (permit me to say in conclusion) some co-operative plan entered into by women by which we could aid each other in all such efforts, exchange experience, ideas, &c., and justly regulate prices for boarders and servants. Is there any better place to start it than in these columns, over which you, my dear madam, pre-

side with so much dignity and usefulness? I can imagine a club-room in Baltimore where working women of our class might meet occasionally, when in town for shopping, &c., exchange ideas, and, *perchance produce*, rest, refresh ourselves and enter into arrangements for our mutual benefit. Boston and New York afford such to their literary, philanthropic and artistic women. Might not Maryland, whose crest (it is said) is an oyster, and shield, a canvas-back, give similar aid to laborers in the field of gastronomic art? TITANIA.

Home Duties.

"He who knoweth to do good and doeth it not, to such it is a sin."

These lines bring with them such a train of thoughts that it is a question what to make of them: whether a medley, an essay or a sermon.

To the most of us who are well on our journey to the vast unknown, the question must often come as it did to Ruskin, (I believe:) "Where are we? whither are we going? and what had best be done under the circumstances?"

It takes more than an acquaintance with the higher mathematics to train one's mind to solve these questions. To us they seem too voluminous to take in at once. Just where we are is hard to know; just whither we are going is yet more difficult; what had best be done under the circumstances is more plain. As we can none of us count upon more than the present, it is safe to do the very *best* we can. Those who have not tried will be astonished to know how much can be done by each day resolving to do some kindness or good that you do not *very much want* to do. When our poor finite minds are floundering in the labyrinths of "belief," it is not only a rest but a comfort to turn to the *work* that is so plain.

We can all understand the words, "Inasmuch as ye do good unto the least of these, ye do it unto me;" and we mothers have no lack of opportunity to carry out this text to the letter. But how often do faith, patience and even love fail us, and, alas! the opportunity goes by.

It is easy and beautiful in theory to make the good of our children the motive power of life. I have read, with glowing enthusiasm, of mothers who lived over their youth in the youth of their children, who kept their sympathies ever fresh and ever ready to go out to them, and who found time to join in their romps and amusements. But do most of us spend more time and thought in this way, or in working for the eyes of indifferent observers? We sew and we stitch, and our children are fearfully and wonderfully arrayed—those who have plenty of means; have neither the broad love nor the strength of mind to set an example of simplicity, and those who are less able are equally weak in striving to imitate them. When we look back upon our past, which will bring the most peaceful thoughts, the hours we have spent in improving and amusing our little folks, or those when we were so "busy" we could not be "bothered?"

The hour between supper and the children's bed-time, it seems, might be given heart and mind to them. They do so love to monopolize their parents, and we can always find time through the day to hunt up a story, even if it must come from the imagination,—of course taking care that the moral effect is good, as a story often makes a more lasting impression than volumes of advice. This way of spending the hour before going to sleep leaves them in a happy frame of mind, which is very desirable, as some children always waken with the same thoughts they had on their minds at night.

B. E. L.

Health Hints.

Plenty of fresh air and sunshine are needful if one would have health. There is a hospital in Paris where the chief treatment is sun baths, the patient being exposed in an upper or roof story to the full rays of the sun. This course has been found very beneficial. Many will remember the magnificent centennial display of a Philadelphia house, (B. Shoemaker & Co.,) of every variety of glass, surpassing indeed any in the Paris Exposition. Among the various kinds I was much interested in the blue glass used for windows, sides of rooms, etc. Quite a good-sized volume has been published on the use of this colored glass, with many letters from persons who speak of the great benefit they have received from its use: the rays of the sun which came to them through glass of blue color, in their experience resulting in the cure or great relief of many diseases,—rheumatism and others. Now, there may be much healing virtue in the blue tint, certainly it is best that the sky should wear that hue, or it would not be of that color; but I have not the least doubt that much of the good which has been done in these cases has resulted from the exposure of the diseased enfeebled body to the healthful rays of the sun, which exposure would probably not have been resorted to but for the blue glass. I have often passed houses in Virginia so entirely surrounded by trees that very few rays of sunshine could by any possibility reach a single brick, and have almost invariably been told "some one in that family is almost always sick, and often more than one. You may see the doctor's carriage at the gate now." Why did not the doctor allude to the need of pure air, healthful breezes and sunshine? In many country houses there are one or more rooms generally "shut up," a parlor or spare room, in which blinds are down, shutters perhaps closed, no fire, and an air of damp and chill that strikes one to the heart. If it is the parlor, a fire may be put on a little while before company comes, but how many a death has often been caused by this closing of windows and excluding sunshine. Better have plainer carpets or cover exposed patches, and let every room in your house be dry and light. If there is one plague spot it will infect others.

J. B. M. BRISTOL.

"The Blessed Bees."

BY JOHN ALLEN.

GEO. P. PUTNAM'S SONS, N. Y.

Having received from the publishers a copy of the work, we handed it to an accomplished apiarian, who gives us the following:

We picked up this little book with our prejudices strongly against it, as, from its title and some extracts from the latter part of it which we had seen, we thought it was one of that class of agricultural novels written by people much more familiar with the pen than the farm, which were quite the rage half a dozen years or so since. But when we had finished it we felt that its author was thoroughly at home among his hives, and as intelligent and successful a bee-keeper as a delightful writer. The book is well worth reading for the sake of the pleasant, fresh style and evident truthfulness of the story, even by those who care nothing for bees. And while it is in no sense a text-book of bee culture, and would not be intelligible to one not pretty well up in the subject, the author's method of managing his 36 hives was so excellent that no bee-keeper can read the book without profit. His idea of turning his unripe extracted honey into first-rate comb-honey by feeding it back to his hives during the hot summer weather when there is nothing for the bees to gather, seems to us likely to make as great a revolution in bee culture as the invention of the Honey Extractor did.

There is rather a suspicious lack of failures, for the first season, indeed for any season; but as he says he read everything on the theory of bee culture he could procure, (spending \$34 on bee books and periodicals before he touched his hives) he could scarcely be considered a novice. And the entire devotion of his time to his bees, always doing what they needed just at the right moment, was certainly likely to make him successful. Very few bee-keepers have patience enough to go through their hives every two weeks killing black drone brood as Mr. Allen did, when Italianizing; or have faith enough in the business to spend nearly \$1,600 before they have gotten a cent of profit from their bees. Perhaps he does not bring the hard work of bee culture enough before his readers. To him, it was such a labor of love that he didn't realize how much work there really was in it. Still, we don't think any novice will be induced to believe that he can make a couple of thousand dollars a year in bee culture after reading this book.

We got so much interested in Mr. Allen that it would be hard to find fault with his book, if it was not as thoroughly good as it is. And we wish him many more \$3,744 checks from his commission merchants. And hope and believe he will get the education for his sister, and travel and culture for himself, that he so much desires, from his BLESSED BEES.

W.

Howard Co., Md.

We call attention to the Hagerstown Co.'s Horse Rake advertised in this issue, for which special advantages are claimed in the way of locust hubs and twenty steel teeth. The Co. also manufactures a grain drill and a clover huller of established reputation.

The American Farmer.

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Transient Advertisements payable in advance—all
others quarterly.

Advertisements should reach us by the 27th of the
month, to secure insertion in the succeeding issue.

BALTIMORE, MAY 1, 1879.

Subscription Bills.

Those of our subscribers who have not paid
for the present year, and others who are longer
in arrears, will find we have sent their bills, as is
our custom, in the present number. Prompt
attention in remitting the sums specified, which
are individually small but quite considerable in
the aggregate to us, will be much appreciated.

The American Pomological Society.

The information upon which we made our
statement last month that the meeting of this
association would be held in New York city
was incorrect, arrangements which were con-
templated to that effect having been changed.
Rochester, N. Y., will be the place, as we are
informed by the annexed note to the *American
Farmer* from the acting secretary.

The seventeenth session of the American
Pomological Society will commence on Wednes-
day, September 17th, at Rochester, N. Y. Will
send circular as soon as issued.

Boston, April 23.

R. MANNING.

We regret very sincerely to hear of a severe
accident to Col. Wilder, the venerable president
of the society, by which he sustained a fracture
of his thigh. We trust it will not be a perma-
nent cause of disablement to this indefatiga-
ble worker in the cause of agriculture and
horticulture.

THE COTSWOLD rams offered for sale by Mr.
Haxall came from superior stock. His ram
Earl of Warwick was selected as a yearling by
him in person, in England, in 1875, and is an
animal of great symmetry, in perfect health
and vigor. To him and the ewes imported with
him and to lambs by him the first premiums
were awarded at the Virginia State Fairs of
1876 and '77. The price at which the sheep are
offered is very moderate, their merits considered.

The American Farmer.

From many late notices of the *American
Farmer* we quote the following pleasant ones
as showing the estimation in which it is held by
our brethren of the press:

It is really wonderful how much is crowded
into this magazine. Its leading article is on the
capabilities of the Middle and Southern Atlantic
States. It has numerous reports from agricul-
tural clubs, and a great variety of articles from
correspondents. This magazine is full of articles
of value and interest to farmers,—its articles on
poultry, stock, garden and fruit culture being of
special interest. It should be in the hands of
every farmer.—*Charlotte (Va.) Gazette, April 10.*

The April number of this sterling old agricul-
tural journal is full of valuable practical articles
in every department of farm life and work. The
American Farmer is the pioneer agricultural
periodical of this country. Its senior editor,
Mr. Samuel Sands, has been identified with the
farming interests of Maryland for nearly half a
century, and in its editorship is ably assisted by
his son, Mr. William B. Sands.—*Harford (Md.)
Egis, April 18.*

The *American Farmer*, published in Baltimore
city by Samuel Sands & Son, is the oldest agri-
cultural journal in the country (established in
1819.) It is well edited and has the assistance of
a valuable correspondence in Maryland and the
Southern States, nearly all who write for it
being practical farmers and planters. The con-
tents of the April number abound in seasonable
information. The leading paper is a suggestive
one upon the capabilities of farm lands in the
Middle and Southern States as compared with
those of the West. There is much about dairy
work and other farm and garden and farm-yard
business.—*Clarke (Va.) Courier, April 10.*

Ah, here comes our old and ever-welcome
friend, the *American Farmer*. We are glad to
find that age has not impaired its vigor nor
abridged its influence. It deals with farming as
a substantive thing, as a potent fact, and does
not waste its space in discussing mere theories,
but goes at once into the practicability of the
matter, shows what farmers should do and how
to do it, to make farming pay. The April num-
ber is fully equal to its predecessors in ability, in
interest and in value. Had we more space at
command we would particularize. As it is we
cannot.—*Nelson Co. (Va.) Examiner, April 11.*

One of the standard agricultural publications
of the country.—*Baltimore Bulletin, April 2.*

New Advertisements.

MESSRS. C. AULTMAN & CO., the manufacturers of the Buckeye Machines, the Sweepstakes Thresher, &c., have established a branch house in Baltimore at 122 S. Eutaw street, under the management of Mr. H. W. Matthews, where they will keep on hand a full line of goods, including all extras for repairs, and also sections, knives and sickles for every description of reaping and mowing machines.

MR. A. B. FARQUHAR, of York, Pa., the well-known manufacturer of agricultural machinery, offers in our columns his celebrated portable engines, threshing machines, &c.

MR. A. G. MOTT, at his old stand, 40 Ensor street, is selling the Dorsey Self-Raking Reaper and Mower, which is claimed to be the king of all self-raking reapers; also a general assortment of implements and repairs.

MESSRS. A. & A. G. ALFORD offer, at No. 47 German street, the Remington Agricultural Implements—steel, carbon and iron plows, mowers, horse-rakes, fire-arms, &c.

Pearl Millet.

Dr. W. B. Jones, of Georgia, writes as follows to the Planter and Grange concerning this plant, which is now said to be the same as the cat-tail millet long known and used as forage at the South:

You indulge in some wholesome strictures in regard to the speculative prices of Pearl millet seed, recently revived at the North. If this only serves to call the attention of our Southern farmers and planters to this old and reliable forage and green soiling plant, the present discussion of its merits will accomplish good. I have planted it 25 years here, never failed of a crop, and estimate one acre of it worth four times the production of corn as food for horses and cattle. In other words one acre is worth and will save 25 bushels of corn to the grower, besides health to his stock in the change of food. I could not dispense with it in the rotation annually as a variety of green soiling food for my stock. I have done much to introduce these seed to Northern and Western stock growers. I threw my crop of seed (1877) in hands of seedsmen at eight cents per pound (8 cents) and saw them advertised at (\$3.) three dollars per pound.

The seed are not plentiful. They are not saved, and a difficulty in cleaning them to make them merchantable deters many from saving only a small supply, many preferring to buy annually, rather than save them from depredations of birds, that rapidly consume the crop when ripe.

As to the report of Peter Henderson about its growing nine (9) feet in forty-five days under garden culture, I believe it will do it. The amount of green food is incredible on *very rich land*, as it can be cut so often. With me nothing grows so rapidly and so long, after repeated cutting.

Great Yields of Corn.

An old Delaware Co., (Pa.) farmer gives an account of his successful corn planting; gives the figures showing the results in several cases, which have been well attested, where greater yields than any he had quoted:—In the year 1853 John A. Wilton, of Franklin County, Maine, raised 55½ bushels on half an acre. James Armstrong, of Knoxville, Tennessee, raised in 1859, four thousand bushels on forty acres. Dr. John Tuttle, twenty-five miles northeast of New York City, raised one season an average of over eighty-eight bushels on 14½ acres, and an average of 110 bushels on a six acre lot. Dr. J. W. Parker, of Columbia, South Carolina, grew in 1857 upon his farm near that city, 200 bushels and 12 quarts upon one measured acre of ground, and 116 bushels and 6 quarts upon another acre.

CROWS AND CORN.—The same writer gives the following on the subject of crows. He says: With many the mooted question is not settled whether crows do more damage to farmers than they do good; to such I would say frighten the crows, but do not kill them, except one or two to keep their fellows off your corn. Pick off part of their feathers, and scatter them around on some part of the field easily seen, and nearby leave the carcass of dead crows, and you will see his late companions flying over the field and looking down upon what had been done, but very careful not to light where they too might fall a victim. In years gone by, when I was farming, I found the best remedy against crows and all other birds was to tie young crows, or blackbirds to strings stretched across the field. I am sure also, that if birds are to be kept off by any kind of scarecrow they must be put up as soon as the corn is planted, before the thieves get a taste; that will most likely prove "the ounce of preventative" that "is worth a pound of cure."

Cheap Farm Roller.

Take a smooth, solid log of the heaviest wood you can get—light-wood pine if you can get a log large enough, is just the thing—not less than 2 feet in diameter and 6 feet long; strike a circle of equal diameter on each end and hew it, working to a line so as to make it straight and round; saw in two equal lengths of 3 feet, cut the inner edge of each with an axe or adze, concaving each 1½ inches, bore the ends and set ¼ inch journals, 10 inches long and sharpened at the points and having a collar on them—the outer ones 3, the inner ones 1½ inches from the end; mount the rollers one at a time on bearings; let two men run it with their hands, as a squirrel does his cage, and with jack plane set coarse, turn it smooth. Make the frame of 8x4 scantling, just long enough for the rollers to run in, and ten inches broader than they are in diameter. The tongue should be about 13 feet long, 4 inches square at the back end, halved on to the middle of the frame, and fastened with ½ inch bolts, bracing it with iron bars to the frame. It must be cut to fit the concave ends of the roller, and bored through in the middle for both journals.

THE SUGAR CONVENTION met on the 10th April at Elmira, N. Y., as announced in our last issue, Commissioner LeDuc and others present. The proceedings were interesting, and we may give in our next some portions which are of general interest.

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Baltimore Markets—May 1.

Breadstuffs.—Flour—Active and firm, with tendency in prices upward. We quote: Howard Street Super \$3.25@3.75; do. do. Extra \$4.4@4.62; do. do. Family \$4.75@5.50; Western Super \$3.35@3.75; do. Extra \$4.00@4.62; do. Family \$4.75@5.50; City Mills Super \$3.25@3.59; do. do. Extra \$4.4@4.50; do. do. Rio Grande Extra \$5.50@5.75; Spring Wheat Family \$4.12@5.00; Minnesota patent \$6.50@7; Fancy brands \$5.50; Fine \$3.50@3.75; Rye Flour \$3; Corn Meal, City Mills \$7 brl. \$2.65; do. City Mills \$7 100 lbs. \$1@1.05; do. Western \$7 100 lbs. 95 cents.

Wheat.—Southern in demand, and prime long-berry firm. Western firm and holders not disposed to sell. We quote: Southern Fultz \$1.09@1.13; do. long-berry \$1.15@1.16; Penna. No. 2 red spot \$1.14@1.14½; Western No. 2 red, spot and the month \$1.13½@1.13½; do. do. do. June delivery \$1.13½@1.13½; do. do. do. July do. \$1.09½.

Corn.—Southern steady but quiet. Western active. We quote: Southern white 46 cents; do. yellow 42 cents; Western steamer, spot 40½@40½ cents; do. mixed spot and the month 42 cents; do. do. June 42½@42½ cents; do. do. July 43½ cents.

Oats.—Are firm, with prices advancing. We quote: Western mixed 32@33 cents; do. light mixed 33½@34 cents; do. white 35 cents; Southern 34@35 cents; Penna. 34@35 cents.

Rye.—We quote good to prime at 52@60 cents \$ bus., with the market quiet.

Mill Feed.—Western, of which there is some arriving, is selling at \$14@14.25. Country at \$16, and we quote City nominal at \$18 \$ ton.

Hay and Straw.—Hay is dull and heavy, but Straw remains steady. We quote: Choice Cecil Co. Timothy \$14; Fair to prime Md. and Pa. Timothy \$12@13; mixed Hay \$10@12; Clover do. \$9@10; Wheat Straw \$7; Oat do. \$9; Rye do. \$9@10.

Tobacco.—Receipts of Maryland are freer, and the better grades are more active; whilst advices that 11,000 hhds., a much larger quantity than ever before taken of Maryland, will be required this year for Franco, affects favorably the market for it. We quote as follows: Maryland, inferior and frosted, \$1.50 @ \$2.00; sound common, \$2.50@3; good common, \$3.50@5; middling, \$4.00@5.70; good to fine red, \$5@10; fancy, \$10 @ \$15; Virginia, common and good luxs, \$3.00@5.00; common to medium leaf, \$2.00@3.00; fair to good leaf, \$3.00 @ \$10.00; selections, \$12.00@16.00.

Provisions.—Dull and heavy. We quote as follows: Bulk Shoulders, packed, new, 4½; L. C. Sides, new 5½; C. R. Sides, new, 5½; Bacon Shoulders, new, 4½; do. C. R. Sides, new, 6; Hams, sugar-cured, new, 9½ @10; Shoulders do. 6½@6½; Breasts 6½@6½; Lard, refined, tierces, 7½; Mess Pork, old, \$ brl. \$9.50; do. do. new, \$ brl. \$10.50@10.75. **Butter.**—Dull. We quote: New York State good to choice tubs, 13@17 cts.; Western tubs, choice dairy, 14@16 cts.; Nearby Roll, 12@16 cts. New York State, prime to choice, 7½@9 cents; Western, good to choice, 7½@8 cents. **Eggs.**—10@10½ cents for fresh. **Poultry.**—Old chickens, live, are selling at 10@11 cts. \$ lb.

Live Stock.—Beef Cattle—Supply ample. We quote best on sale \$4.87@5.62; first quality \$4.12@4.87; medium good fair quality \$3.12@4; ordinary thin steers, oxen and cows \$3. **Swine.**—Receipts moderate and market firm.—We quote prices at 55½ cents net. **Sheep.**—In fair demand and supply. We quote at 4@5½ cts. gross.

Produce. Prices are as follows for the articles named, viz: Apples—New York State, \$ brl. \$2.00; Apples—Eastern, \$ brl. \$1.75@2.00; Beans—New York Medium, \$ bus., \$1.45@1.50; Peas, black-eye, \$ bus., \$1.15@1.18; Peas, Western green, \$ bus., \$1.70@1.75; Potatoes, Early Rose, \$ bus., 90 cts.@1.10; do. Pease Blows do. \$1@1.10; do. Jackson's do. \$1.00; do. Sweet, \$ brl. \$3.00@4.00; Onions, \$ brl. \$2.00; oceswax, \$ lb., 30@33 cents; Ginseeng, \$ lb., 90@95 cents; Seneca Root, \$ lb., 35@38 cents; Virginia Snake, \$ lb., 10@12 cents; Feathers, \$ lb., 25@40 cents; Hides—dry country, \$ lb., 13@15 cents; Sheep's Pelts, each, 50 cents @ \$1.00; Tallow—country, \$ lb., 6@7 cents; Broom Corn, \$ lb., 3@5 cents; Soap—country, \$ lb., 4@5 cents.

Wool.—Unwashed, coarse \$ lb., 30@32 cents; do. do. fine \$ lb., 19@21 cents; do. tubwashed coarse \$ lb., 30@31 cents; do. do. fine \$ lb., 28@30 cents; do. fleece-washed 2@2½ cents.

Cotton.—Dull and irregular. We quote: middling 11½; low middling 11½; strict good ordinary 11½; good ordinary 11.

Chew Jackson's Sweet Navy Tobacco.

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We call the attention of farmers and threshermen to the advertisement of the Fearless Horse-Power and Thresher and Cleaner, elsewhere in this number of our paper. This machine is the only one that received an Award on both Horse-Power and Thresher and Cleaner at the Centennial Exhibition, Philadelphia, and ranks as best of its class. An Ex-President of the New York State Agricultural Society said of Harders' Machines, "they are the best ever made", and the same testimony has been borne by equally good authority time and again.

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Sands unequalled for ease of team, the Horse-Power runs, as shown by the records, with more than one-third less friction than any other. The only machine awarded a

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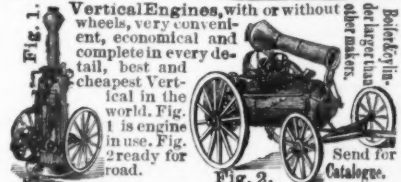


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Lots on the road have brought as high as \$500 an acre, and
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As I cannot occupy the place myself, I am willing to sell
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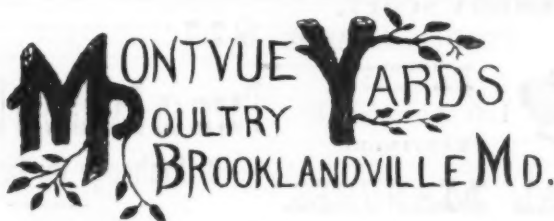
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CHOICE PURE-BRED POULTRY.

Price-List of Eggs for 1879.

Light Brahmas.....	\$3 00 for 13 Eggs	White Cochins.....	\$3 00 for 13 Eggs
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White Leghorns.....	2 50 " 13 "	Rouen Ducks.....	3 00 " 12 "
Brown Leghorn.....	2 50 " 13 "		

Eggs I send out are PACKED TO HATCH, and are from the same yards I breed my birds from. Eggs packed by my method (original) and forwarded by Express hatch as good a percentage as at home. Customers will oblige me by reporting their success in hatching.

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**FARMERS, STOCK-GROWERS AND OTHERS, STUDY YOUR OWN INTEREST,
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LONDON HORSE AND CATTLE CONDITION FOOD.**

It has stood the test of time of 37 years in England, Ireland, Scotland, France and Germany, and pronounced the best Food for maintaining the Health of all Horses, Cows, Sheep, Hogs and Poultry ever known in the world; and, upon trial, will exalt its own merits. **AND EVERY PACKAGE IS GUARANTEED TO CONSUMERS.** It is the third of the cost of all Condition Powders, and contains nothing in it but what any HEAST can take inwardly, without a particle of Danger or Injury. A Sure Cure of Aliments arising from the Stomach. **PACKED IN 6-LB. BOXES. PRICE, \$1.00. FOR SALE BY ALL DRUGGISTS AND FEED DEALERS.**

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GILPIN'S VEGETABLE LIVER PILLS

Are prepared, with great care, from medical plants, are coated with sugar that they may be taken by the smallest child and upon the most delicate stomach; are intended especially to act upon the Liver—thereby relieving all such diseases as COSTIVENESS, HEADACHE, PARALYSIS, DYSPEPSIA, COLDS, JAUNDICE, and all diseases of a Bilious origin. No better evidence can be offered in favor of these Pills than the very fact that where their ingredients are known to family physicians, they are using them in their private practice. We append the following from one of our most prominent physicians:

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DR. GILPIN—After carefully examining the formula of your Sugar-Coated Pills, I feel it but justice to say, that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them not only to my patients, but the entire medical profession.

Yours truly,

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From one of the leading retail druggists of West Virginia:

WESTON, W. VA., June 18, 1869.

MESSES. CANBY, GILPIN & Co.—Gents: Please send by express twelve dozen Gilpin's Vegetable Liver Pills. I have the most flattering accounts from all who have used them, and believe the day is not far distant when they will supersede all others.

Yours,

F. M. CHALFANT.

We could fill several pages with certificates, &c., from prominent men throughout the country, but prefer to let the Pills in the future, as they have in the past, rest entirely on their own merit—knowing that wherever they are known their use will pass down from generation to generation.

GILPIN'S VEGETABLE LIVER PILLS are sold by all respectable Druggists and Country Store-keepers throughout the United States and Canada.

Principal Depot: CANBY, GILPIN & CO., Baltimore.

DISSOLUTION OF CO-PARTNERSHIP.

BALTIMORE, March 19th, 1878.
The Co-partnership heretofore existing between the undersigned, under the name of **J. J. TURNER & CO.**, is this day dissolved by mutual consent. Either will sign in liquidation.

J. J. TURNER.
J. Q. A. HOLLOWAY.

TO TOBACCO PLANTERS AND CORN GROWERS.

The undersigned, **PIONEER** in the manufacture of **FERTILIZERS** in this city, and engaged, since 1853, first as a member of the firm of **J. J. & F. Turner**, BY WHOM the formulas and processes of manufacture of

"Excelsior" and "Ammoniated Phosphate"

Were *originated*, and since 1864 a member of the late firm of **J. J. Turner & Co.**, relying upon his experience and personal reputation, hitherto acquired in the uniform excellence of these **FERTILIZERS** as manufactured by him, offers them *in his own name* to the agricultural public.

Having secured the works of the old firm, **111 McELDERRY'S WHARF**, with the complete machinery, specially constructed for their uniform manipulation, he will continue the manufacture of

"EXCELSIOR" and AMMONIATED PHOSPHATE

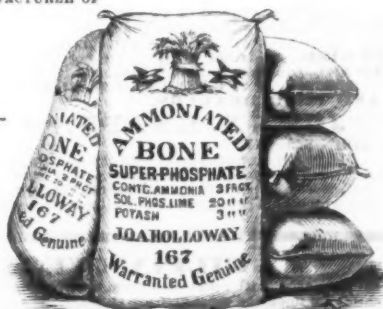
On his own account, with his office adjoining the works, where he will be pleased to see his friends and patrons, assuring them that the **FERTILIZERS** manufactured by him shall be of the same uniform and high standard quality as sold by the old firm since their introduction.

J. Q. A. HOLLOWAY,

ORIGINATOR AND MANUFACTURER OF



—AND—



The above are the most concentrated, universal and durable **FERTILIZERS** ever offered to the Farmer—combining all the stimulating qualities of Peruvian Guano and the ever-durable fertilizing properties of Bones, in fine dry powder prepared expressly for drilling, and it is the opinion of many close-calculating Farmers, after **OVER TWENTY YEARS'** experience in testing "**EXCELSIOR**," manufactured by me, side by side with other popular Fertilizers, that an application of 100 pounds is equal to 200 pounds of any other Fertilizer or Guano ever offered for sale, therefore fully 50 per cent. cheaper. By strictly adhering to my Original Formulas, using only the most concentrated materials, and *superintending in person their manufacture*,—as for the past twenty-years,—**UNIFORM QUALITY IS GUARANTEED.**

Farmers to secure the **GENUINE EXCELSIOR AND PHOSPHATE** prepared according to my Original Formulas established in 1858, should see that every Bag is branded as above, with the Analysis and my name in Red Letters.

J. Q. A. HOLLOWAY,

Originator and Manufacturer,

EXCELSIOR, \$46 per ton.
PHOSPHATE, 40 " "

107 McElderry's Wharf, Balto., Md.

PATENTS.

Any information relating to obtaining Patents, Caveats, Trade-marks, etc., furnished without charge. Pamphlet giving full directions free. We publish a book entitled a "Hand Book of Patent Law," and which gives much valuable information on Patent law points and court decisions, 126 pages, price 60 cents. Information and assistance afforded those desiring to sell their Patents. We furnish printed Blanks for selling Rights.

MANN & CO., Patent Agents,
116 W. Baltimore St., opposite Sun Iron Building,
BALTIMORE, MD.

Farms for Sale!

In Westmoreland Co., Va., Three
Miles from Court-House,

Six miles from steamboat landing. Contains 650 acres; upwards 200 cleared; 40 acres good meadow land. A large quantity excellent Pine, Chestnut, Oak, Poplar, Cedar, &c. Steam Saw Mill on the place. Soil—best quality of forest land, easily cultivated; highly susceptible of improvement; grows clover and other grasses well. Water pure, excellent, and in all the fields abundant. Dwelling-house, 2 basement rooms and 4 above; other necessary buildings and 2 barns. Perfectly healthy. Chills and intermittents unknown. Churches, Schools, Stores, Shops, &c., all convenient. \$8 per acre. \$2,500 cash; balance in 1 and 2 years.

140 acres adjoining the above; 60 arable. Several acres meadow land. Soil good. Water good, very healthy, and might be made a nice little farm. 3 to 4 miles from navigable water. No improvements, except cabins. Price \$500 cash; or \$560—\$250 cash, balance in 12 months. Cord wood on the place would soon pay for it.

D. M. WHARTON,
Montross, Westmoreland, Va.

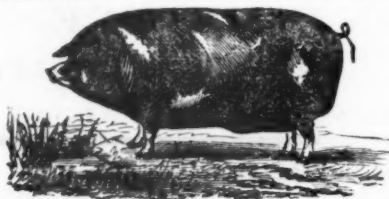
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UPPER JAMES REAL ESTATE AGENCY,
BY WILLIAM HOLMAN.
CARTERSVILLE, Va.

Who offers for sale upwards of 12,000 acres of land, lying in one of the most desirable regions of Eastern Virginia.

Catalogues sent on application.

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DEVON CATTLE. SOUTHDOWN,
LEICESTER AND MERINO SHEEP.
POLAND-CHINA, BERKSHIRE AND ESSEX
HOGS A SPECIALTY.

All bred from the most noted and fashionable strains of Prize-Winning Stock.

I took first premiums in their classes on Devon Cattle, Leicester and Merino Sheep, Poland-China and Essex Hogs, at Virginia State Fair in 1875 and 1876, besides a large number of Prizes taken at Piedmont and Lynchburg Fairs.

Address, F. W. CHILES,
Tolersville, C. & O. R. R., Va.

ESTABLISHED 1848.

HORNER'S CONCENTRATED SUPER-PHOSPHATE FOR ALL CROPS.

It is made of the best and most concentrated materials, possesses all the virtues of PERUVIAN GUANO and BONE-DUST combined, and is well adapted to Wheat, Corn, Oats, &c., producing abundant crops where all others fail. Having a large percentage of Soluble and Precipitated Phosphoric Acid and Ammonia, it is without doubt the richest Commercial Fertilizer in the country.

HORNER'S BONE-DUST

Made only of Slaughter-house Bones, contains a larger percentage of AMMONIA and BONE PHOSPHATE LIME than any other brand in the market.

WE OFFER

One Thousand Dollars!

For the Detection of any Impurity in our
Manufacture of Bone.

We do not steam or bake our Bones, or otherwise treat them so as to destroy the animal matter, which is rich in ammonia.

The Best Article in the Market
HORNER'S

Super-Phosphate of Lime

—OR—

DISSOLVED BONE,
MADE OF PURE SLAUGHTER-HOUSE BONES

It is richer in Soluble Phosphoric Acid and Ammonia than any similar article in the market.

CHEMICALS

And other materials for making

Home Fertilizers

Muriate Potash, Kainit,
Sulphate Soda, Plaster,
Peruvian Guano, Oil Vitriol,
Nitrate Soda, Dried Blood,
Dissolved South Carolina,
Dissolved Raw Bone, &c., &c.

A full supply of PURE Materials always on hand and for sale at lowest market.

Write or call before buying elsewhere.

Joshua Horner, Jr., & Co.

OR, BOWLY'S WHARF AND WOOD STREET,
BALTIMORE, MD.

No. 1 PERUVIAN CUANO**500 TONS HIGH-GRADE PERUVIAN GUANO,**Containing Fourteen Per Cent. of Ammonia,
FOR SALE IN LOTS TO SUIT, BY**J. Q. A. HOLLOWAY,**

107 McElderry's Wharf, Baltimore.

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S****Prepared Agricultural**

Prepared Expressly for Each and Every Crop.

Try it alongside of your pet Manure and note its effect. **SEND FOR**
CIRCULARS, WITH TESTIMONIALS.**ONLY \$15 PER TON—16 BAGS.****L. J. WARREN,**

Agent for the Manufacturer.

18 E. Falls Avenue, BALTIMORE.

Also Lime, Hair, Brick, Cement and Plasters.

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E****Paper Hangings, Window Shades, &c.**

Orders in person or by mail, for everything in my line, receive prompt attention.

Handsome designs, shown in the store, will give a clear idea of appearance of paper on the wall.

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Between Lexington Market and Gutman's Store.

TO FARMERS AND PLANTERS.**R. J. BAKER & CO.****36 and 38 S. Charles Street,**

Factory at Locust Point,

BALTIMORE, MD.Manufacturers and Dealers in PURE GROUND RAWBONE, SULPHATE OF
LIME, SULPHATE OF AMMONIA, NITRATE OF SODA, SUL-
PHATE OF SODA, MURIATE AND SULPHATE OF
POTASH AND GROUND PLASTER.All PURE Chemicals for mixtures, compounds of formulas for fertilizer mix-
tures, as low as any house for cash. Write for prices.

JOSHUA THOMAS, **Steam, Agricultural and Mill Machinery**

ECLIPSE
Agricultural
ENGINE.



Best, Cheapest,
and most
Economical Engine
in the Market.

FIRST PREMIUM WHEREVER EXHIBITED.

Buffalo Pitts Thresher and Cleaner,

The old Standard, and still ahead of all competitors.

Kirby and Wheeler Mowers and Reapers,

OSBORNE SELF-BINDING HARVESTER.

A full line of Harvesting Machines, adapted to the wants and taste of Farmers any and everywhere.

Buckeye Grain and Fertilizer Drill,
Star, Victor and Ilton Horse Rakes,
Circular Saw Mills,

Portable Grist Mills,

Millstones, Smut Machines, Bolting Cloths,

Mill Picks, Leather and Gum Belting,

Cucumber-Wood Pumps,

Buckeye Force Pump,


The Watt and Ball Plows, &c., &c.

Prices and Descriptive Circulars furnished on application, and correspondence solicited from all wanting anything in my line.

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No. 53 LIGHT STREET,

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 CORN, OATS, AND TOBACCO.

R. J. BAKER & CO.'S
PURE SUPER-PHOSPHATES!

The Pure dissolved **RAW BONE** is manufactured from our Pure Fine-Ground Bone, and it is the best **SUPER-PHOSPHATE** in the market for corn and oats. We have the practical tests by Farmers for years.

 Pure Chemicals for making **SUPER-PHOSPHATE** at the Lowest Market Price. Call at

R. J. BAKER & CO.'S,

Factory at Locust Point.

Nos. 36 and 38 South Charles Street.



FERTILIZERS

MADE FROM THE

Blood and Bones

OF THE

Cattle Slaughtered in New York.

"AMERICUS" AMMONIATED BONE SUPER-PHOSPHATE,
"AMERICUS" DISSOLVED ANIMAL BONES,
"AMERICUS" BONE FLOUR.

The fertilizers we manufacture and sell under the **"AMERICUS BRAND"** are made from the blood, refuse butchers' offal and bones, taken daily from our slaughter-houses in New York City.

These materials are manufactured in a fresh condition by the most improved process, by which all the valuable fertilizing properties are saved and concentrated. We treat in our works weekly the refuse from **Four Thousand Cattle, Eight Thousand Sheep.**

MANUFACTURERS' SUPPLIES:

Dried Blood and Animal Matter, Ground Bone, Dissolved Bone, Acid Phosphate, Tallow, Grease and Bone Black.

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West, Northwest and Southwest,

To PITTSBURG, CINCINNATI,
LOUISVILLE, INDIANAPOLIS,
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AND ALL OTHER

PROMINENT POINTS.

BALTIMORE & POTOMAC

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AND ALL POINTS IN THE

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THE ONLY

ALL RAIL LINE

WITH NO

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PHILADELPHIA and ERIE RAILWAYS

ON THE NORTH TO

HARRISBURG, WILLIAMSPORT, ELMIRA,
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Baggage called for and checked at Hotels and private residences through to destination. Sleeping and Parlor Car accommodations secured.
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At Depot N. C. Railway,

UNION DEPOT, CHARLES STREET STATION,

And PENNSYLVANIA AVENUE STATION.

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SUPER-PHOSPHATE.

CHEMICALS purchased on order at the lowest market rates. (Can save you money by buying for you.)

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COWS, HEIFERS,
and CALVES.

All Herd-Book Animals.

For sale by

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Ashland, Baltimore Co., Md.

Manufacturers of Plows, Harrows, Cultivators, Drags, Shovel Plows,

And Castings of every description made to order.

The Celebrated Oxford Plows Made to Order.

Repairs promptly attended to. A liberal discount made to those who purchase to sell again.

The patronage of the public is respectfully solicited, and we pledge ourselves to use every effort to render satisfaction.

PLYMOUTH ROCK FOWLS

Eggs, \$2.00 per 13.

Birds carefully selected for breeding, well marked, and of good size.

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YARDS: LAKE ROLAND, MD.

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47 S. Calvert St., Baltimore.

Have for sale the *New Fodder Plant* or *Pearl Millet Seed*, which you find noticed in March number of the *American Farmer*. Price 60 cents a pint, post paid; \$1 a quart, post paid, or \$3 a peck by express, expenses paid.

Clover, Orchard Grass, German and common Millets, Timothy and other Field Seed constantly on hand. Extra Early and Marrowfat Peas, choice.

BERKSHIRE PIGS.

The subscriber offers for sale a select lot of Berkshires of various ages, bred from stock imported by Hon. M. H. Cochran of Canada, T. S. Cooper and Chas. B. Moore of Pennsylvania, and other well-known breeders.

Animals warranted true to description and pedigree, which will be furnished on application. Orders solicited and satisfaction guaranteed. Prices to suit the times.

THOS. J. LEA,

Brighton P. O., Montgomery Co., Md

Poland-China Pigs.

I can supply some of these animals of very fine quality, which cannot fail to give satisfaction to purchasers.

THOS. J. LEA,

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PLASTER.**PRICE REDUCED.**

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DAMP WALLS

CURED by the application of English Petrifying Liquid, and inside walls that are damp can be papered on at once. *Leaky Cisterns* can be effectually cured. *A fresh importation on hand.*

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CELEBRATED CLOTHIERS

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Announce the introduction of a plan of ordering

CLOTHING AND UNDERWEAR BY LETTER,

to which they call your special attention. They will send, on application, their improved and accurate **RULES FOR SELF-MEASUREMENT**, and a full line of samples from their immense stock of

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A large and well-assorted stock of **READY-MADE CLOTHING** always on hand, together with a full line of **FURNISHING GOODS.**

NOAH WALKER & CO.

Manufacturers and Dealers in Men's and Boys' Clothing and Furnishing Goods, either Ready-Made or Made to Order.

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SPRING OF 1879.

Rosebank Nurseries,

GOVANSTOWN, BALTIMORE COUNTY, MD.

ORNAMENTAL AND FRUIT TREES, FLOWERING SHRUBS, AND HERBACEOUS PLANTS.

We invite the attention of the public to our select stock of the following: **STANDARD** and **DWARF PEARS**,—2, 3 and 4 years old. **APPLES**—Standard and Dwarf. **CHERRIES**—Standard and Dwarf. **APRICOTS, CRAB APPLES, MULBERRIES, GRAPE VINES**, of the most popular kinds, together with other small fruits.

Our **COLLECTIONS** of **ORNAMENTAL** Trees and Shrubs are large, and embrace most of the rarest sorts.

ROSES on their own roots, with the newest of **BEDDING-OUT** plants by the dozen or 1,000, for which we have issued a separate Catalogue.

SPECIAL.—\$0.00 one and two-year old **OSAGE ORANGE** plants for hedges.

CATALOGUES FORWARDED ON APPLICATION. ORDERS BY MAIL PROMPTLY ATTENDED TO. ALL GOODS DELIVERED IN BALTIMORE FREE OF CHARGE.

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Clairmont and Furley Hall Nursery.

ESTABLISHED 1828.

The largest stock and greatest variety of fruit and ornamental trees, foreign and domestic, to be found in the United States.—comprising apple, peach and pear trees, (standard and dwarf) evergreen and shade trees; all varieties of grape vines, currant, gooseberry, and blackberry bushes, strawberry plants, etc., etc.

TERMS TO SUIT THE TIMES.

Nursery is located on the Bel-Air Road, Baltimore County, and can be reached by way of Gay street.

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OPPOSITE THE ENTRANCE TO GREENMOUNT CEMETERY, BALTIMORE.

The subscriber keeps constantly on hand a choice assortment of Plants that are always healthy and well grown. His stock of **VERBENAS, COLEUS** and other bedding plants is very extensive and in splendid condition. The stock of **ROSES, CAMELLIAS AND GERANIUMS** is large and fine.

We have also a fine lot of **MAGNOLIA GRANDIFLORA**, grown in pots, all the **NEW COLEUS**, quite a distinct type from the older varieties, together with a **GENERAL COLLECTION OF PLANTS** that may be found in a first-class establishment.

At our store, **ON CHARLES ST., COR. SARATOGA**, in the Young Men's Christian Association Building, a collection of Plants and Flowers may always be found. Choice Bouquets, Funeral Designs, and designs for the decoration of rooms, tables, and for everything for which flowers are used, put up in the most artistic style of the art, and at short notice, and we flatter ourselves that our charges will compare favorably with any in the country.

JAMES PENTLAND.**NEW AND RARE PLANTS**

The largest and most remarkable collection ever offered in this country, including many trees not to be found in any other NURSERY. Also an extensive assortment in large quantities of

Fruit and Ornamental Trees,**SHRUBS AND VINES.**

SPECIALTIES.—Japanese Maples, Rhododendrons, Hardy and Greenhouse Azaleas, Camellias, Roses, Magnolias, and New and Choice Hardy Plants. Price-List Free Descriptive Catalogue, 10 cents.
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All of which is offered at **GREATLY REDUCED PRICES.**

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FIRST-CLASS**THRESHERS AND CLEANERS.**

Steam Engines, Horse-Powers and Plain Threshers. Reapers and Mowing Machines. All kinds Harvesting Tools. Walking Cultivators, latest improvement. **IRON AGE** and Common Cultivators. **GENUINE** Malta Double-Shovel Plows. Corn Shellers, Wheat Fans, Straw Cutters. **DIAMOND IRON PLOW**, the Plow of the day. **OUR OWN ACME PLOW** getting very popular. All the Standard Plows in the market. **TEMPLE'S CELEBRATED CUCUMBER PUMPS**, with Porcelain-lined Cylinder. Very superior **FARM WAGONS**. **Field and Garden Seeds** fresh and reliable. Supplied by

THOMAS NORRIS & SON, Manufacturers and Dealers,**No. 42 Light Street, Baltimore.**

Flowers, Plants, Bulbs, &c.

MY NEW ILLUSTRATED CATALOGUE, WITH COLORED PLATE FOR 1879, OF
RARE AND POPULAR PLANTS FOR THE

GARDEN, CONSERVATORY, &c.

Now ready. Mailed free to all customers; to others on receipt of four three-cent stamps.

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Richmond & Baltimore Nurseries,

FRANKLIN DAVIS & CO.

300 Acres in Nursery Stock. 100 Acres in Orchards. 100 Acres in Small Fruits, &c.

Special attention paid to growing Apple trees suited to the South.

The largest and finest stock of Fruits and Ornamental Trees, Shrubs, Roses, &c., grown in the South. All orders given to our agents will receive prompt and careful attention.

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A. BRACKENRIDGE,

Wholesale and Retail Dealer in

PLANTS, FLOWERS, &c.

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Persons desiring to buy in quantity would do well to correspond with us before purchasing elsewhere. Our facilities are unsurpassed. Having nine large houses fully stocked, we are able to compete with the leading Florists north. Our plants are in fine order, and guaranteed to give entire satisfaction.

New Geraniums, Roses, Coleus, Hydrangeas, Pelargoniums, &c.

We were awarded twenty-eight first prizes for our plants by the Maryland Horticultural Society during 1877 and 1878.

SEND FOR WHOLESALE AND DESCRIPTIVE CATALOGUE—FREE.

Dorsey, Moore & Co.

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Agricultural Implements and Machinery.

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Studebaker Farm and Freight Wagons, Adamant, Wiard and Ohio Chilled Plows, Cornell Cob Shellers, Thomas Patent Smoothing Harrows, Big Giant Corn and Cob Mills, Iron Age Cultivators, Daniels Hay, Straw and Fodder Cutters, Lion do. do., Queen City Steam Engines, Shaker Separators, &c., &c.

Sole manufacturers of **MONTGOMERY'S IMPROVED ROCKAWAY GRAIN FANS**,—the best and cheapest Fan made in the country for the farmer.

PRIME FIELD SEEDS A SPECIALTY. SEND FOR ILLUSTRATED CIRCULARS AND PRICE-LISTS TO

DORSEY, MOORE & CO.

Responsible Agents wanted.

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SLIFER & WOODWARD,

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GENERAL AGENTS FOR THE

"ADRIANCE" REAPER

It is light, strong, easily operated, perfectly balanced, no weight on horse's neck, and no side draft.

THE "MARSH No. 4,"

Combined Mower and Reaper. All iron, simple of construction, light-running and durable.

The "LION" SULKY HAY RAKE, Centre draft, self or hand discharging.

The "Complete" Sulky Cultivator,

The "Keystone" Clover Huller,

And "The Ellis Champion" Thresher & Cleaner, The cheapest and best Thresher ever made.

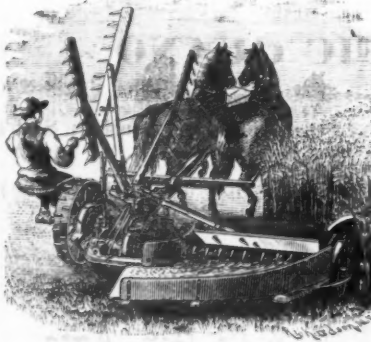
ALSO, DEALERS IN

Agricultural Implements of the Most Improved Patterns,

Field and Garden Seeds, Pure Ground Bone, Dissolved Bone, and Slifer & Woodward's Bone Phosphate of Lime.

AGENTS WANTED. SEND FOR CATALOGUES.

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CRIFFITH & TURNER, Agricultural Implements and Seed Warerooms,

41 and 43 N. Paca Street, BALTIMORE.

Garden and Field Seeds, Fertilizers, &c.

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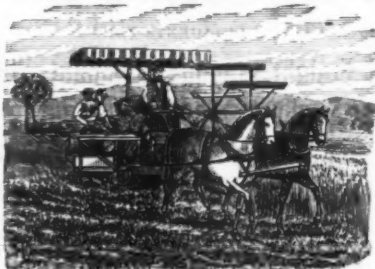
MCCORMICK'S

Self-Binders,

HARVESTERS

Reapers

And **MOWERS.**



Hay Tedders,

Horse Rakes,

Hay Loaders,

Harpoon Hay Forks.

“FITZHUGH'S HAY ELEVATOR,” for unloading Hay and delivering it in the mow, or on the stack. MALTA SHOVEL PLOWS and “RIDING AND WALKING WHEEL CULTIVATORS, the IRON-AGE CULTIVATORS, the PLANET COMBINED GARDEN SEED-DRILL and WHEEL HOE, CAHOON GRASS-SEED SOWER, the “PHILADELPHIA LAWN MOWER,” conceded to be the simplest, lightest running, and best Mower in use. TREE PRUNERS and PRUNING SHEARS, “FOUNTAIN PUMPS,”

THE OLIVER CHILLED PLOW

Has superseded all others wherever tried in competition. Over 200,000 now in use. Warranted to do good work. Scour in any soil; run lighter than any Plow in use; run steady with one, two or three horses, and not choke or corrode; work well in dry or hard ground, and give good satisfaction.

PATENT STEEL BARBED FENCE WIRE—Does not rust, stain or decay. A complete barrier to unruly stock. The most durable and cheapest fence. STEEL AND CAST-IRON PLOWS, PLOW CASTINGS, with a general assortment of Agricultural Implements and Farmers' and Gardeners' Tools of all kinds. Repairing done at shortest notice. SEND FOR DESCRIPTIVE CIRCULARS.

THE PACIFIC GUANO COMPANY'S

SOLUBLE PACIFIC GUANO

Is used more extensively by the leading farmers in the Middle and Southern States than any other fertilizer.

On Cotton, Corn and Tobacco, this Guano has produced results unsurpassed by any fertilizer sold.

STANDARD GUARANTEED BY

JNO. S. REESE, & Co. Gen. Agts.

No. 4 SOUTH HOLLIDAY STREET, BALTIMORE.

For sale by local agents everywhere.

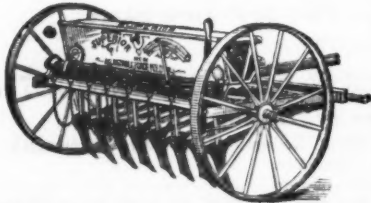
J. C. DURBOROW.


FRANK A. KISSELL.

J. C. DURBOROW & CO.

No. 35 LIGHT STREET, BALTIMORE, MD.

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**"SUPERIOR" GRAIN DRILL,**

Having a PERFECT FORCE FEED and a PERFECT FERTILIZER ATTACHMENT. NO BUNCHING OF THE GRAIN. THE STRONGEST AND BEST MADE DRILL IN THE MARKET.  Send for Price-List and Circulars.

ALSO GENERAL AGENTS FOR

Meadow King Mowers and "King of Lawn" Lawn Mowers,


And dealer in AGRICULTURAL IMPLEMENTS of the most improved kinds:

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